

Social Accountability and Minority Status

Contributions to Public Goods by Hindus and Muslims in Delhi Slums

Melani Cammett
Harvard University
mcammett@g.harvard.edu

Poulomi Chakrabarti
Queen's University/ Harvard University
pchakrabarti@fas.harvard.edu

David Romney
Brigham Young University
david.romney@byu.edu

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Abstract

How does social status affect contributions to local public goods? Based on an original survey experiment and qualitative research in slums in Delhi, we examine how persecuted minorities respond to social accountability aimed at promoting cooperation around community sanitation. While mainstream theories of diversity and public goods provision would predict greater willingness to cooperate in majority Hindu and Muslim neighborhoods, we find that mechanisms of social accountability are more effective among Muslims across the board, a group that routinely faces discrimination and violence in India. We propose that this reflects “defensive cooperation,” or a set of coping strategies in a hostile sociopolitical environment. Muslims with stronger ingroup ties, who are more likely to have developed the social technologies required to promote cooperative behavior, largely drive the effects. Our findings point to a new mechanism that helps to enforce social norms and, hence, public goods provision – the role of *minority status*.

1 Introduction

Minority Muslims, long the target of violence in India, have seen a surge of violence in the last few years. The governing Bharatiya Janata Party (BJP), which renewed its hold on power in the 2019 national elections in India, ran its campaign on a strong Hindu nationalist agenda imbued with anti-Muslim rhetoric. Within weeks of reassuming office, the BJP government removed the special autonomy of the Muslim-majority state of Jammu and Kashmir and passed a new citizenship law designed to fast-track Indian citizenship for migrants from neighboring countries of all religions except Islam, provoking massive demonstrations throughout India. Protests in Delhi escalated into one of the worst episodes of Hindu-Muslim riots in three decades, with widespread accusations that the police aided Hindu mobs ([Delhi Minorities Commission, 2020](#)). Beyond violence, the persecution of Muslims as a religious minority affects their everyday lives. This project focuses on one aspect in particular: How does the status of Indian Muslims as a persecuted minority shape the nature of intergroup interactions and contributions to their communities?

This question has implications for the dynamics of local public goods provision in heterogeneous communities, particularly among residents of unequal social status. A large body of work in the social sciences explores the relationship between ethnicity and development ([Alesina and Ferrara, 1999](#); [Banerjee et al., 2005](#)).¹ Efforts to identify the mechanisms underlying the negative association between diversity and public goods provision highlight the role of social shaming in driving prosocial behavior ([Habyarimana et al., 2007](#)). Most research in this vein, however, focuses on the role of ethnic diversity, while the role of hierarchy or status of ethnic groups remains largely overlooked. We draw on insights on social status from social psychology, and on diversity and social norms from the literature on development, to argue that social shaming produces differential effects for majority and minority groups. Minorities face the additional burden of adhering to perceived expectations from the majority group, which in turn shapes norms of ingroup policing.

¹In line with standard social science applications, we use the term “ethnicity” to encompass diverse “identity” based cleavages, including religious or sectarian, and understand it to refer to “descent-based” attributes that may be malleable in the long term but structure politics and social interactions in meaningful ways ([Chandra, 2006](#)).

In a survey experiment in slum settlements in Delhi, we test the differential effects between Muslims and Hindus of three forms of accountability on willingness to contribute to a common good, specifically drainage and sewage, in their neighborhoods. Though distinct, all three mechanisms work through priming the prospect of *social shaming*, either via psychological processes in response to intergroup competition, or through social interactions. The first, the *black sheep effect*, highlights the underperformance of fellow group members. The second, *horizontal accountability*, primes the prospect of public shaming in front of one's neighbors, such as through gossip. The final mechanism, *vertical accountability*, entails shaming through pressure by local elites. In our experimental manipulation, we present respondents with a hypothetical neighborhood initiative to hire a private firm to clean and maintain drains in the community. Importantly, this initiative requires the support of a supermajority of the community in order to be implemented. Participants are then exposed to a favorable testimonial from a nearby resident about the hypothetical drainage scheme and a description of what, if any, social consequences there would be for those who do not contribute. We randomize aspects of the testimonial and accountability descriptions to test each of our three mechanisms, and measure results using an index of five measures of participants' willingness to contribute to the initiative.

Existing theories predict that cooperative behavior is more likely to arise in relatively homogeneous, majority Hindu or Muslim neighborhoods. However, we find that Muslims exhibit greater willingness to contribute to the initiative in response to the treatments across the board, whereas treated Hindus are no more willing to contribute than those in the control group. These results hold after accounting for a host of relevant factors, including levels of caste and religious diversity, the strength of social ties, gender, socioeconomic status, and other factors. Our findings suggest a new mechanism that affects compliance with and the enforcement of social norms regarding public goods provision – the role of *minority status*.

We propose that the higher propensity of Muslims to respond to accountability mechanisms is a manifestation of *defensive cooperation*, which serves as a protective coping mechanism in a hostile sociopolitical environment. Rather than religiosity or cultural distinctiveness, suggestive

evidence indicates that contributions to the collective good are largely driven by Muslims with stronger ingroup social ties, who are more willing and able to police ingroup behavior to protect the group's external image.

In the next section, we discuss the role of social accountability mechanisms in public goods provision in general, and in minority communities more specifically. We then introduce the context of the research, outline our data and methods, describe the main results, and provide suggestive evidence aimed at disentangling potential mechanisms. Finally, we summarize the key theoretical contributions and lay out a research agenda on persecuted minorities and intergroup relations.

2 Minority Status and Public Goods Provision

Ethnic minorities are often subject to exclusion and even persecution in many parts of the world. Discrimination against minorities in employment and housing has been widely documented (Banerjee et al., 2009; Bertrand and Mullainathan, 2004; Susewind, 2017). In extreme cases, they are perceived as a threat and become targets of violence, sometimes with state backing, including routine victimization at the hands of law enforcement agencies (Gayer and Jaffrelot, 2012; Soss and Weaver, 2017). While such discrimination contributes to ethnic inequality, social psychologists have also emphasized the role of ingroup bias among members of minority groups in the stability of social hierarchy (Jost et al., 2004; Sidanius and Pratto, 1999). Abiding by the hierarchical status quo, sanctioning ingroup members who transgress is a strategy employed by minorities to avoid violence (Das, 2006; Mac Ginty, 2014; Williams, 2015). In his analysis of “everyday peace” in conflict-affected societies, Mac Ginty (2014, p. 554) argues that minorities “may go out of their way to avoid giving offence and to be deliberately polite to outgroup members” in order to maintain calm, including by regulating behavior within the group. An emerging body of work has examined the effects of ascriptive discrimination on political mobilization (Oskooii, 2016, 2020; Schildkraut, 2005), and ethnic conflict (Wimmer et al., 2009), but the role of minority status in public goods provision is less clear.

A robust body of work overwhelmingly finds that ethnic diversity impedes public goods pro-

vision (Alesina and Ferrara, 1999; Banerjee et al., 2005), a negative relationship that has been described as the "most powerful hypothesis in political economy" (Banerjee et al., 2005, p. 639). Efforts to identify the mechanisms underlying the negative association between diversity and public goods provision point to the role of social norms and networks in coordinating ingroup collective action and sanctioning non-contributors (Habyarimana et al., 2007). Social norms, or "standards of behavior based on widely shared beliefs about how individual group members ought to behave in a given situation" (Bernhard et al., 2006, p. 217), can be powerful motivators of political behavior such as voter turnout (Gerber et al., 2008) and socioeconomic outcomes (Björkman and Svensson, 2009; Olken et al., 2014). As forms of prosocial motivators, social norms are a type of accountability mechanism: when people are held accountable for their behavior to those whose opinions they care about, they behave more in line with those individuals' expectations (Lerner and Tetlock, 2002).

Building on these literatures on minority political behavior and public goods provision, this research examines the effects of minority status on social accountability mechanisms of cooperation. We conceptualize minority status not just in terms of demographic weight, but as a function of historical discrimination and persecution (Ridgeway, 2019). We argue that intergroup disparities are likely to produce differential effects of social shaming in majority and minority groups. Members of persecuted groups anticipate that an ingroup failure would result in negative attention from the majority (Ditlmann et al., 2017) and are hence concerned about being blamed for poor outcomes. Such real and perceived threats from the majority can influence cooperation within minority communities through different types of ingroup policing or social shaming. Cooperative behavior – in this case, contributions to the collective good – is hence a coping mechanism in the face of exclusion and persecution from the majority group. We call this behavior *defensive cooperation*, which can generate enhanced contributions by minority groups to communal public goods. Further, the strength of an individual's ties to the ingroup should increase their likelihood of engaging in cooperative behavior (Granovetter, 1973; Lust and Rakner, 2018). Individuals embedded in such networks are more likely to develop tools that enhance the willingness and ability to monitor and sanction defectors, notably *social norms and institutions* as well as *commitments to norm adherence*

(Habyarimana et al., 2007).

Existing literature on intergroup relations provides empirical support for the concept of defensive cooperation. In their meta-analysis of studies in over forty conflict-affected countries, Bauer et al. (2010) find that exposure to violence increases ingroup prosocial behavior and altruism. These effects are not driven by economic incentives or changes in beliefs about the outgroup; rather, external threats influence ingroup social norms of cooperation. Non-violent threats have also been shown to generate ingroup cooperative behavior. Based on a study of Muslims in West Bengal and Hindus in Bangladesh, Gupta et al. (2018) conclude that the minority group in both contexts shows positive bias regarding ingroup trustworthiness. Similarly, Muslims in the US and UK, who experience social exclusion, are more likely to be involved in civic activities with fellow low-status ingroup members (Oskooii, 2016, 2020).

2.1 Minority Status and Social Accountability Mechanisms

In this section, we briefly review the social accountability mechanisms that underlie collective action and then elucidate how hierarchical social relations may affect these mechanisms differentially for dominant and subordinate groups.

Existing approaches suggest that social norms – including those that affect contributions to public goods provision – can be enforced through three distinct mechanisms. First, research in psychology suggests that ingroup members are more likely to cooperate under conditions of intergroup competition. In general, members of a group view their own group more positively than others, and strive to behave in a way that reinforces the “positive distinctiveness” of one’s group (Tajfel and Turner, 1986). Individuals have been shown to compensate for group behavior as a way of protecting group image or status through a mechanism called the *black sheep effect* (Gino et al., 2009; Gino and Galinsky, 2012). By this logic, members of persecuted minorities may seek to protect their group’s reputation and hence compensate for the underperformance of ingroup members by contributing to public goods. A field experiment in Germany, for example, found that minorities sanctioned fellow minorities at higher rates as compared to majority “natives”

for violating the *same* social norms (Winter and Zhang, 2018). Black Americans who identify more strongly with their community are more likely to police fellow group members who conform with negative stereotypes (Jefferson, 2018). The “politics of respectability” serves as a defense mechanism against racist stereotypes (Higginbotham, 1993, p. 187).

A second way of enforcing social norms is via horizontal social networks, through actions such as public shaming and gossip among community members. We refer to this as *horizontal accountability* since it operates among citizens of relatively equal standing. Public shaming, for example, may motivate improved service delivery, community coordination and, potentially, enhanced social or economic outcomes (Björkman and Svensson, 2009; Duflo et al., 2015; Panagopoulos, 2010), while gossip among community members can spread information about issues related to public health (Banerjee et al., 2019). Horizontal social relationships may be especially robust for persecuted minorities. Discrimination can generate greater cohesion within such communities (Padilla, 1985; Tajfel and Turner, 1986), which can generate stronger ingroup social networks and trust and enhance the effectiveness of horizontal accountability measures (Granovetter, 1973; Lust and Rakner, 2018; Ostrom, 1990).

Third, community leaders and other local elites may be instrumental in driving collective action around public goods provision at the local level. Such *vertical accountability* mechanisms can improve the supply of public goods in a variety of contexts. Baldwin (2015) finds that hereditary chiefs in Zambia mobilize resources and generate improved service delivery. Elites in influential positions with formal roles, such as elected officials, or informal roles, such as local leaders (*pradhans*) in Indian slums (Auerbach, 2016; Thachil, 2017) and religious authorities, play a central role in their communities. For better or for worse, local elites serve as brokers for citizen access to public and private resources, command the respect of citizens, and constitute a focal point for claim-making, among other functions.² Social cohesion may bolster ties between residents and leaders in minority groups, thus strengthening the effectiveness of vertical accountability

²To be sure, hierarchical social relations are often associated with clientelism and elite capture of public service delivery, resulting in unequal provision and inferior quality public goods (Bardhan and Mookherjee, 2012; Khemani, 2015).

mechanisms. A lab-in-the-field coordination game in India, for example, found that Muslim leaders improve cooperation in Muslim majority towns while Hindu leaders cannot elicit similar levels of performance from Hindu participants (Bhalotra et al., 2018).

2.2 Hypotheses

Our study assesses the willingness of community members to contribute to a hypothetical collective scheme to improve drainage systems in slum areas, contingent on different accountability mechanisms. We focus on the variable likelihood of Hindus versus Muslims to respond to accountability treatments.³ The treatments tap into three different methods of priming the prospect of public shaming aimed at inducing contributions to a local public good: *Horizontal Accountability*, where respondents are told that community members will learn of and gossip about those who have not contributed; *Vertical Accountability*, where respondents are told that local leaders will contact and reprimand those who have not-contributed; and *Black Sheep*, where respondents are told that religious ingroup members failed to contribute to the public good while members of the outgroup did contribute. Since we are interested in minority responses to social shaming, we aggregate the three accountability mechanisms.

Based on our theory, we test two hypotheses regarding the effects of these treatments:

1. Muslims will be more likely than Hindus to contribute in response to priming the prospect of public shaming.
2. Muslims with strong ties to the ingroup (and, hence, the strongest incentive to defend the ingroup) will be the main drivers of this effect.

³This differs somewhat from our main pre-registered hypotheses. The pre-registered study focused on the effects of the treatments based on local-level diversity. Although we did include heterogeneous effects by religious identification in our pre-analysis plan, emphasizing Muslim minority status, it was not our central hypothesis. However, we found that levels of diversity did not significantly moderate our treatment effects and worked in the opposite direction than theorized. Though not significantly different, the point estimates of the effect for respondents in areas of high diversity are *higher* than the estimates for respondents in areas of low diversity. We concluded that this was likely due to the fact that, because Hindus are a majority in India and, therefore, residence in a diverse area is strongly correlated with being Muslim in our sample. We think this deviation is justifiable, particularly on theoretical grounds. At the end of the paper, we outline a research agenda on the role of minority status in determining political behavior to see if our results replicate and generalize to other contexts.

3 Context: Hindu-Muslim Relations in India

We focus on the city of Delhi, India, which has a long and, at times, fraught history of Hindu-Muslim relations. Estimated at 172 million people, India's Muslim population is the third largest in the world, making India the largest Muslim-minority country. Hindu-Muslim relations in independent India have been strongly shaped by the dynamics of 20th century religious nationalism in the subcontinent. Ideological differences between Muslim and secular nationalists led to the partition of British India and the creation of Pakistan in 1947, displacing millions of people. As the largest religious minority and with the formation of Pakistan as a Muslim homeland, Muslims are the main ideological adversary of Hindu nationalism, the political ideology of the ruling BJP. At its core, Hindu nationalism is based on the belief that Hindus should have cultural and political primacy in India (Varshney, 2003).

While the current political vitriol against Muslims is unprecedented in recent history, Muslims have long been the target of discrimination and violence, generating insecurity, displacement, segregation, and loss of property and life (Varshney, 2003). More than ten thousand people are estimated to have been killed in Hindu-Muslim riots since independence (Wilkinson, 2004), while Muslim loyalty to India is continuously questioned by elements of the state, media, and the political class (Gayer and Jaffrelot, 2012). The precarious position of Muslims is also reflected in relative socioeconomic conditions. On average, Muslims are poorer, less educated, and less connected to the formal sector (Government of India, 2006). Moreover, intergenerational mobility for Muslims has declined over time, while other marginalized groups have experienced notable gains (Asher et al., 2017), in part because, unlike other minorities, Muslims do not benefit from affirmative action policies. They are underrepresented in elected bodies and the bureaucracy, and their marginalization in the police and judiciary, in particular, has made them vulnerable to anti-terrorist measures that disproportionately target innocent Muslim men (Gayer and Jaffrelot, 2012).

Our research site, the capital city of Delhi, is one of the major historical centers of Islamic culture and politics in South Asia. Though the city lost about two-thirds of its Muslim population

during the partition (Gayer, 2012), Muslims still comprise about 13% of Delhi, roughly mirroring that of India as a whole. Delhi features one of the highest levels of Muslim segregation in India, an indication of relatively weak intergroup social ties (Susewind, 2017). Muslim underrepresentation in the bureaucracy and law enforcement agencies is particularly acute in the city: Only 7 of 124 judges appointed to the Delhi High Court since 1966 are Muslim and, at 2.3%, Muslim representation in the local police force is among the lowest in India. Muslims in Delhi are also poorer and less educated than the overall population (Gayer, 2012), and therefore more likely to reside in slums, which house about half of Delhi's 18 million residents and are the sites of this study.⁴

Delhi's slums, like many poverty-ridden areas in the world, are characterized by inferior public goods provision (Banerjee et al., 2012; GNCTD, 2006; Heller et al., 2015). According to a 2012 survey of over 3,000 slum-dwelling households in Delhi, for example, only 14% have a private tap or toilet. About 60% of households had no specific outlet for drainage from their home, a figure that is even higher for the poorest households (72%), while 90% of those with a drain say that it emits bad smells or overflows (Banerjee et al., 2012).

We focus on drainage and sewage for several reasons. First, they are among the most strained public services: Storm water drainage is at less than 50% capacity in Indian cities (Ministry of Urban Development, 2012). In Delhi in particular, drainage is one of the most contentious public goods, with residents often negotiating with municipal workers or paying collectively for a private organization to regularly clean out drain gullies (Heller et al., 2015) – an arrangement that informed the design of this research. Further, according to some surveys, access to water and sanitation is the greatest source of discontent among slum dwellers (Banerjee et al., 2012). Most respondents in our study rated the quality of drainage in their neighborhood poorly. Drainage is therefore contextually relevant and important.

Second, from a theoretical perspective, storm water drainage is a case of a (near) pure public

⁴Estimates of Delhi's slum population vary by the criteria used to define a slum. While government reports in 2008-2009 estimated this population at 580,000 households or about 10% of the city (Banerjee et al., 2012), the Delhi Human Development Report uses a broader definition of slums that includes 45% of the population (GNCTD, 2006). A recent study argues that more than 60% of Delhi's population lives in informal settlements with inadequate public service provision (Heller et al., 2015).



(a) Internal drains run next to houses, often close to sources of water supply, thus contaminating drinking water.



(b) Garbage and plastic bags clog drains. Blockage in one section can lead to overflows throughout the settlement.



(c) Even after mild rainfall, flooding due to blockages is not uncommon.

Figure 1: Condition of Drainage in selected Sites

good – or at least a common pool resource – that cannot be addressed by individual, uncoordinated solutions.⁵ Heavy rainfall and the accumulation of garbage cause drains to clog and in turn affect the well-being of the whole community, particularly because drains are interconnected and pass through entire slum neighborhoods, including in small trenches immediately adjacent to private homes. Thus, by design, drainage requires cooperation to resolve blockages. Residents may thoroughly clear the portion of the drain crossing underneath the threshold of their homes, but if they do not coordinate with upstream neighbors, their hard work will be for naught. For precisely this reason, our fieldwork revealed that residents sometimes band together to clean their drains on their own initiative or engage a private provider to do so (see Figure 1; also see Appendix Section 1.1).

Further, although the municipal government is supposed to maintain drainage in slum settlements, in practice the municipality is often either incapable or unwilling to carry out its official duties. During fieldwork in multiple sites, we witnessed piles of trash that municipal workers had extracted and placed alongside drains in order to dry it out before collection and removal at the periphery

⁵A common pool resource refers to a system in which it is costly but possible to exclude some from making use of the benefits of its resources. Examples include irrigation systems, fishing grounds, or forests (Ostrom, 1990).

of settlements (again, see Figure 1). However, interior drains in settlements remained clogged with trash and organic waste and local residents claimed that municipal workers rarely if ever venture inside the slums to attend to public infrastructure needs. Because drainage is effectively a common pool resource rather than a state-provided public good, social accountability mechanisms play an especially critical role in cooperation around its maintenance (Habyarimana et al., 2007; Ostrom, 1990). The context of drainage in Delhi slum settlements is therefore particularly well suited to study the effects of social accountability norms around cooperation and the ways in which intergroup relations condition contributions to the collective good.

4 Data and Methods

To explore our questions, we use a large-scale ($n = 3,843$) survey experiment, which was informed by extensive qualitative field research prior to implementation. In this section, we describe the site selection and survey administration processes, experimental treatments, and sample design.

4.1 Site Selection and Survey

Before designing and 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 20 communities or *bastis* in nine slum settlements across Delhi.⁶ The sites were selected on the basis of their ethnic composition. This preliminary fieldwork, conducted for over three months, generated 26 detailed reports providing a wealth of information on the demographic characteristics, quality of infrastructure and public services, political and social life, and local leadership in the selected communities (see Appendix Section 1.2). We learned that slum residents favor low-cost, private options over free, public services offered by government agencies and non-governmental organizations (NGOs).⁷ hence, our survey centers on interest in a hypothetical private drain

⁶The larger sites are administratively categorized as “informal settlements” by government agencies. *Bastis* refer to smaller organic communities within the settlements. (See Appendix Section 1.1.)

⁷After 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. Further, residents viewed NGOs as money-making schemes for well-connected locals aiming to extract funds from the government and foreign donors rather than to promote community welfare.

cleaning company. The initial fieldwork also allowed us to select five relatively heterogeneous and homogeneous sites that were largely similar to each other in other respects, such as socioeconomic characteristics, age of settlements, and condition of public services. We piloted the instrument in three *bastis* to improve the clarity and relevance of the survey questions.

A second firm, Across Research and Communications (ARC), implemented the survey. 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 Appendix Section 1.3). Because the survey focused on household decisions, and because prevailing social norms in India dictate that financial decisions are made by the head of household, enumerators were instructed to interview the head of household, who is typically male. The enumerators used tablets to administer the survey, which allowed us to record the GPS coordinates of each household. We utilize this data to construct a measure of ethnic diversity in the localities of participating households. Overall, the response rates varied between 30 and 70 percent across seventeen sub-settlements/*bastis*. Section 1 in the Appendix provides details regarding the recruitment strategy and lists the settlements surveyed and their respective sample sizes and response rates.

Participants answered a battery of questions before viewing the experimental manipulations. Pre-treatment questions assessed a variety of topics, including basic demographic characteristics, location of residence, religion and religiosity,⁸ networks with political and voluntary institutions, strength of social ties, political participation, and the state of the drainage system in the neighborhood. Random assignment was administered via Qualtrics software. Respondents were then exposed to one of six experimental manipulations, which presented distinct accountability mechanisms that might boost willingness to contribute to the drainage initiative. After the manipulation, we included a check on participants' knowledge of the drain cleaning initiative to make sure that participants understood the informational aspect of the intervention. Five outcome questions immediately followed the treatment, each measured on a 1–4 scale, with higher levels indicating more positive responses, including:

⁸At this point, respondents who were neither Muslim nor Hindu were dropped.

Benefit: Would this program be beneficial for your neighborhood?

Interest: Given this scenario, how interested would you be, overall, in the program?

Fee: How likely would you be to pay the monthly fee?

Contract: Would you be willing to sign a six-month contract for this service?

Influence: How likely would you be to try to get your neighbors to sign up for the program?

Finally, the survey ended with a battery of questions unlikely to be affected by, or unnecessary for, the experimental manipulation. These included questions about education, socioeconomic status, and political leaning and knowledge.

4.2 Experimental Treatments & Analysis

The treatment began with an offer by a drain cleaning company. To avoid deception, especially since the respondents were economically vulnerable, the offer was described as hypothetical throughout the manipulation.⁹ The participant was told that the study aims to gauge whether residents of the participant's sub-settlement (specified by name) would be interested in participating. In addition, they were reminded twice of two caveats: First, enrollment would entail a monthly subscription fee of Rs. 150 per household (about US \$0.70);¹⁰ second, to ensure a collective action problem, two-thirds of local residents had to sign up for the service before it could be implemented.

Afterward, the treatment texts diverged. In the control, the enumerator introduced a hypothetical testimony from someone whose neighborhood was offered the drain cleaning service. The testimony-giver praised the service but also noted that it was *not* implemented in his neighborhood (the “underperforming” neighborhood) because some people (whom he names) did not want to contribute. He then noted that the program was implemented in an adjoining neighborhood where enough people contributed (again, a few were named). In the control, the names mentioned by the testimony-

⁹For a discussion of this and other ethical issues we considered in our design, see Section 3.5 of the Appendix.

¹⁰A pilot study tested different options for the subscription fee, and indicated that Rs. 150 was a non-negligible but reasonable amount for residents to cover.

giver were half Muslim and half Hindu. After reading the testimony, the enumerator stated that all participant information would be kept private if the service were implemented in the neighborhood.

Table 1: Treatment Group Sizes

Treatment	N
Control	668
Horizontal Accountability	635
Vertical Accountability	649
Black Sheep	615
Horizontal Accountability + Black Sheep	630
Vertical Accountability + Black Sheep	647

Two dimensions of the control text were altered to create the other treatments. The first was an accountability dimension, with treatments aimed at encouraging participation in the drainage scheme based on either horizontal or vertical accountability mechanisms. Horizontal accountability was introduced by altering the final statement of the enumerator. Instead of guaranteeing the participant’s privacy, the enumerator stated that community members would discuss who did and did not contribute, potentially identifying and shaming non-contributors. A list of six names was read as an example of people who were singled out in a different neighborhood. Similarly, the vertical accountability treatment altered the final statement to indicate that a local leader (*Pradhan*)¹¹ would find out who had not contributed and would name and shame non-contributors.

The second dimension tapped into the “black sheep” effect, which was primed by altering the testimony based on the religious identity of the individual taking the survey. If the participant was Hindu, then the name of the “underperforming” community and residents (and, by implication, the one giving the testimony) had an obviously Hindu name, whereas the community and residents who successfully implemented the service had obviously Muslim names. If the participant was Muslim, the names were altered accordingly. By depicting the testimony-giver as an ingroup member, the treatment was potentially more credible. In the two treatment conditions combining accountability mechanisms and the black sheep prime, similar adjustments were made to the list of residents who

¹¹A *pradhan* is an informal slum leader who acts as an intermediary between the formal government and the urban poor.

were singled out as non-contributors.¹²

Note that, although we explore these different treatments in Appendix Section 3.2, we collapse our treatment groups into a single treatment for analysis since we are interested in differences between Hindus and Muslims. The pattern of results across Hindu versus Muslim is similar across treatment groups, suggesting that the “minority effect” is not driven by a specific accountability mechanism. The analysis uses linear regression with inverse probability weights to account for the combined treatment.

4.3 Sample Characteristics

The sample includes 3,843 participants across the six treatments. Because of the use of multiple enumerators and randomization in the field, by chance there are minor imbalances in the size of each treatment group, from a minimum of 615 to a maximum of 668 (see Table 1). Despite these slight differences, the sample was well-balanced in terms of relevant covariates. In an omnibus balance test (Hansen and Bowers, 2008) we cannot reject the null of a balanced sample.¹³

Overall, as illustrated in Table 2, participants in our sample demonstrated a high need for drain cleaning and expressed strong interest in the proposed service. On a scale of 1 to 5, participants rated the quality of drainage in their neighborhoods at a dismal 1.83. Additionally, on average, 23% of participants indicated that they had a problem with drainage in the last year that required the help of someone other than themselves. In the control condition, participants’ interest in the program registered at 2.95 on a 1 to 4 scale, indicating that, on average, participants were very interested in the program. Table 2 provides an overview of the demographic characteristics and other basic information of the sample.

Overall, Hindus and Muslims in our sample are similar to each other for most of the characteristics we measure, though there are some notable differences. For instance, perceptions of community drainage needs varied somewhat by religious identification. Muslims rated the quality of drains in their communities slightly higher, at 1.87 compared to 1.81 for Hindus, while a larger proportion

¹²Appendix Section 2.7 provides the full treatment text.

¹³See Appendix Section 4.1 for the results of this balance test.

Table 2: Sample Demographic Characteristics, Overall and by Religious Identification

Variable	Overall	Hindus	Muslims
N	3,843	2,924	919
Gender (1 = Female, 0 = Male)	0.20	0.19	0.21
Married (1 = Married, 0 = Other)	0.91	0.90	0.92
Age	38.43	37.97	39.91
Years Residing in Settlement	20.63	19.79	23.33
Ownership (1 = Own Residence, 0 = Other)	0.82	0.81	0.84
Employment Status (1 = Employed)	0.84	0.84	0.82
People Per Room in Residence	3.36	3.27	3.64
Financial Hardship Index (1 = More Hardship)	0.25	0.23	0.32
Own a Cooler or Fridge (1 = Own)	0.56	0.54	0.63
Own a Car, Computer, or AC (1 = Own)	0.04	0.04	0.04
Education Level (1-10 Scale)	3.90	4.22	2.90
Religious Behavior Index (1-5 Scale)	3.77	3.67	4.08
Local Political Efficacy Index (1-4 Scale)	1.92	1.95	1.79
Relation to Local Figures (1 = Any)	0.14	0.13	0.16
Involvement in Local Organizations (1 = Any)	0.06	0.06	0.08
General Social Ties (0-1 Scale)	0.89	0.88	0.91
Helpfulness Index (1-4 Scale)	3.11	3.11	3.12
Forgo Wages Index, Family (1-3 Scale)	2.79	2.81	2.74
Forgo Wages Index, Others (1-3 Scale)	2.25	2.25	2.23
Forgo Wages Index, Ingroup (1-3 Scale)	2.21	2.21	2.23
% Political Activities Engaged In	0.16	0.16	0.16
Quality of Drainage (1-5)	1.82	1.81	1.87
Drainage Problem Requiring Help (1 = Yes)	0.23	0.20	0.32
Caste Level (0 = Lower, 1 = Upper)	0.32	0.23	0.61

of Muslims reported having an issue with their drains that necessitated others' help, with 32% of Muslims saying this occurred in the last two years compared to 20% of Hindus. As robustness checks, we include models that control for these and other variables differing between the religious groups.

5 Results

The effect of our treatments differ greatly between Hindus and Muslims. As specified in our first hypothesis, Muslims were more likely to contribute to the proposed drainage scheme than their Hindu neighbors. The set of panels on the left side of Figure 2 shows the means and confidence intervals for Hindus (solid line) and Muslims (dashed line) for participants in the control and treatment groups, divided by each of our five outcomes of interest. Several noteworthy findings emerge. First, across treatments, outcome variation depends on effort required. As we move from questions that require little effort (e.g., “Would this program benefit you?”) to those that would require commitment (e.g., “Would you be willing to sign a 6-month contract?”), the average response decreases by about 20%. Second, Muslims consistently have a lower baseline response to our outcome measures in the control group. For instance, when asked if they would be willing to pay the fee associated with the program, Hindus in the control group have an average response of 2.8, whereas for Muslims in the control group it is 2.6. This indicates that the treatments have the effect of bringing Muslims up to or slightly surpassing the responses of Hindus.¹⁴ This could arise because Muslims in our sample face slightly greater socioeconomic hardship; for example, Muslims reported greater financial difficulties in the past year and live in more cramped quarters than Hindus (see Table 2). Communal social ties may also be part of the answer: In the control group, Muslims with high ingroup social ties score 2.83 on the outcome index, even higher than the baseline for Hindus in the control group at 2.76. Lastly, Muslim participants respond to the treatments by saying they would benefit more from the program, and would be more willing to pay the program fee, sign

¹⁴Two factors mitigate against ceiling effects in this context: the baseline gap between Hindus and Muslims even for outcomes where both group averages are far from the “ceiling” of the measure, and a Tobit model (see Appendix Section 4.9) accounting for floor/ceiling effects estimates a larger Hindu-Muslim difference than we report here.

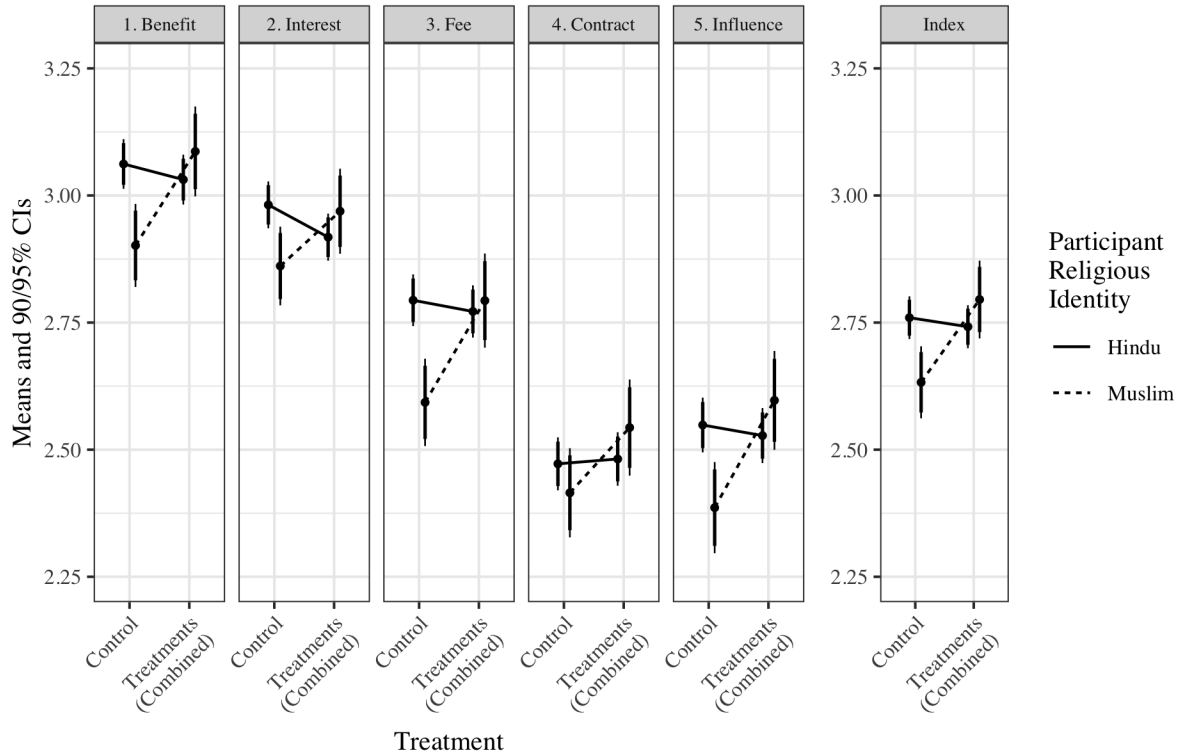


Figure 2: Effect of Combined Treatments on Favorability toward Drainage Program, by Religion a contract, and influence their neighbors to enroll. Hindu participants, on the other hand, show little to no change in the outcome measures in response to the treatments.¹⁵

As discussed earlier, we combine our five outcomes into a single index labeled “Index of Favorability toward Drainage Program.” This is well justified because of the similarity in patterns by religious identity across different outcomes as well as by the high internal consistency of these five measures ($\alpha = 0.89$). Our main test consists of an interactive regression between an indicator for treatment and an indicator for whether the participant identifies as Muslim instead of Hindu. The four means are presented in the right-most panel of Figure 2 as well as the model estimates in Table 3.

Table 3 indicates that the effect of the treatments for Hindus is -0.02 and insignificant, whereas for Muslims the effect of the treatments is 0.18 and statistically significant ($p = 0.02$).¹⁶ The effect

¹⁵Appendix Section 3.2 shows treatments and outcomes separately.

¹⁶When considering p-value adjustment for all tests in Figure 2 (i.e., Muslim versus Hindu for five outcomes and an index, or a total of 12 tests), a Benjamini-Hochberg correction produces a p-value of 0.06. Thus, this overall result remains marginally significant for multiple comparison corrections. The results for 1. Benefits, 3. Fee, and 5. Influence

Table 3: Regression of Favorability toward Drainage Program, by Religion

Dependent Variable: Index of Favorability toward Drainage Program	
Constant	2.76 (0.02)
Treatments (Combined)	-0.02 (0.03)
Muslim	-0.13 (0.04)
Treatments (Combined) x Muslim	0.18 (0.06)
Observations	3,832
R ²	0.003
Adjusted R ²	0.002
Residual Std. Error	1.16 (df = 3828)
F Statistic	3.90 (df = 3; 3828)

size for Muslims constitutes approximately 6.5% of the 1 to 4 scale used for the outcome index, which is a substantively significant effect that is similar in magnitude to other important predictors of favorability toward the drainage program. For instance, one question in our survey asks participants to rate the quality of their drainage on a 1 (poor) to 5 (great) scale; in a regression of the outcome index on this drainage quality question, a move from the 25% to 75% quantile response (i.e., from a 1 to a 3) on the drainage quality question corresponds to a negative change in the favorability index of similar magnitude to the treatment effect for Muslims.

5.1 Robustness Checks

Our experiment passes standard checks of robustness. An omnibus balance test indicates no significant imbalances, whether the treatments are examined separately or combined. On average, each treatment was administered in less than 30 seconds for each condition, with differences of only 1 or 2 seconds between them (see Section 4.3 of the Appendix). Further, the amount of

are significant throughout, regardless of the test.

time it took to administer the survey in the control and treatment conditions was similar. The vast majority of participants passed our manipulation checks – 89% correctly noted the proportion of their neighbors who would need to pay the fee, and 95% correctly identified Rs.150 as the enrollment fee. Participants who incorrectly answered these questions were told the correct answers afterwards and were not excluded based on their responses to these checks. The results do not change if those who did not pass are dropped from the analysis. Lastly, only two participants, or less than 0.1% of the sample, correctly identified the purpose of the experiment in a final question probing the perceived reason for the study. The results remain the same without these participants.

A second set of robustness checks centers on the heterogeneous effects we probe. Religious identity is, of course, not randomly assigned, and other factors correlated with religious identity could account for the findings. We therefore conduct analyses to account for potential alternative explanations. First, we run models with a large set of relevant controls, including an indicator for the caste of the respondent, the religious diversity of the participant’s surrounding area (based on survey responses), and the religion of the enumerator. Our findings hold in each of these models, as seen in Table 4.¹⁷ Caste divisions, within both Hindu and Muslim communities, do not produce statistically significant coefficients. This is consistent with existing literature on Indian slums, including studies in Delhi, which emphasize that community development committees in slums tend to be diverse in their religious and caste composition and that slum leaders cater to multiple groups (Auerbach, 2016; Auerbach and Thachil, 2018; Chidambaram, 2020; Thachil, 2017).

One might wonder about the relationship of local diversity to our findings, since Muslims are more likely to live in diverse neighborhoods. We examine the interaction of the treatments with neighborhood diversity levels, using geocoded data on the diversity within a 100 meter circle of the respondent’s place of residence.¹⁸ In the dataset, the diversity measure is 0.34 for the average Hindu respondent and 0.59 for Muslims. When interacting the treatments with measures of neighborhood diversity, the results are not compelling. While in the same directions as the results for religious identification, they are much smaller and not significant (the treatment effect

¹⁷See Appendix Section 3.3 for the control estimates.

¹⁸Our results hold if the radius is adjusted to alternative values.

Table 4: Models with Controls

	Dependent Variable: Index of Favorability toward Drainage Program				
	(1)	(2)	(3)	(4)	(5)
Constant	2.76 (0.02)	1.00 (0.16)	1.03 (0.16)	0.95 (0.16)	0.96 (0.16)
Treatments (Combined)	-0.02 (0.03)	0.00 (0.03)	0.00 (0.03)	0.00 (0.03)	0.00 (0.03)
Muslim	-0.13 (0.04)	-0.07 (0.04)	-0.07 (0.04)	-0.11 (0.04)	-0.10 (0.04)
Treatments x Muslim	0.18 (0.06)	0.17 (0.06)	0.17 (0.06)	0.15 (0.06)	0.15 (0.06)
Demographic Controls	No	Yes	Yes	Yes	Yes
Caste	No	No	Yes	Yes	Yes
Diversity	No	No	No	Yes	Yes
Enumerator Religion	No	No	No	No	Yes
Observations	3,832	3,684	3,642	3,620	3,614
R ²	0.003	0.10	0.10	0.11	0.11
Adjusted R ²	0.002	0.09	0.09	0.10	0.10
Residual Std. Error	1.16 (df = 3828)	1.08 (df = 3658)	1.08 (df = 3615)	1.08 (df = 3592)	1.07 (df = 3585)
F Statistic	3.90 (df = 3; 3828)	15.69 (df = 25; 3658)	14.90 (df = 26; 3615)	15.45 (df = 27; 3592)	15.57 (df = 28; 3585)

for Muslims: $\beta = 0.10, SE = 0.09$).¹⁹ Note as well that this result is the opposite of what would be theoretically expected, making an explanation based on the religious identity of the respondent all the more compelling.

6 Why do Muslims Respond to the Prospect of Social Shaming?

While our research design does not allow us to test potential mechanisms definitively, we propose that our results are driven by the dynamics of *defensive cooperation* and find suggestive evidence to support this interpretation. Muslims with stronger social ties to their community are more likely to respond to treatments prompting cooperative behavior. This subset of Muslims is more likely to respond to the prospect of public shaming and more likely to develop robust norms around cooperative behavior, which in turn predict the inclination to contribute to local public goods. We suggest that the more prosocial behavior exhibited by Muslims arises because members of a persecuted minority are more likely to rely on ingroup networks as a means to improve their well-being and defend their group's reputation against threats from the dominant majority. In the absence of a similar history of prejudice, the majority Hindus do not respond to the primes.

To empirically evaluate this mechanism, we rely on seven questions about religious practice and social ties (Appendix Section 2.2 has additional details). These questions measure the private practice of religion, public practice of religion, and religious social ties. *Private practice* or religiosity is measured using a question on prayer. *Public practice* is measured with an index of questions about visiting houses of worship, participating in services, donations, and fasting ($\alpha = 0.67$).²⁰ The variable *ingroup social ties* is measured by combining questions on perceived obligations to ingroup members and workers in houses of worship ($\alpha = 0.88$).²¹

¹⁹Appendix Section 4.6 presents a full examination of this model, and Section 4.8 explores how the treatment effect for Muslims varies by neighborhood composition.

²⁰We include fasting under public practice because it involves strong elements of public celebration, especially for Muslims during the holy month of *Ramadan*. Factor analysis in Appendix Section 4.4 confirms this intuition.

²¹For each, responses to the following question: "How obligated are you to help *a member of your religion/local religious worker*, even if it costs you a day's wages?"

Figure 3 presents the results of our analysis. We estimate our main model—from the right-most panel of Figure 2 and Table 3—for low and high values of all three factors, dividing the sample based on the median value of the factor.²² While there is little difference between the two communities at low levels of ingroup social ties, the effect of the treatments are largely driven by Muslims with strong ties to the ingroup. In other words, unlike Hindus, religious social ties among Muslims are associated with greater willingness to cooperate around public goods provision. Consistent with existing literature (Livny, 2020), we find that religiosity, or the private practice of religion, does not present any difference in the interaction effect from the main model: the effect decreases by 0.03 (from 0.18 to 0.15) when we move from those with low to high values. The interaction effects steadily increase with the strength of social ties, from practicing religion in public to feeling a sense of obligation to ingroup members. The interaction effect is only 0.12 for members with low ingroup social ties, about two-thirds of the effect size in our model in Table 3. On the other hand, those with high ingroup social ties have an estimated interaction effect of 0.32, almost twice the size of the interaction effect in our main model. Importantly, these effects are not attributable to an overall difference in social connectedness between Hindus and Muslims: While religious social ties is a strong predictor of cooperative behavior among Muslims, the density of general social ties is comparable in the two religious communities (Lust and Rakner, 2018), as indicated in Table 2. In fact, Muslims with stronger religious ties exhibit higher levels of willingness to cooperate even in the absence of experimental manipulations (in the control group). The differential effects of social ties by communal group provide compelling evidence consistent with *defensive cooperation* among Muslims.

Our findings resonate with the larger literature on Hindu-Muslim relations in India. A number of scholars argue that the reproduction of “everyday peace” is contingent on the acceptance and maintenance of unequal status between Hindus and Muslims (Das, 2006; Das et al., 2001; Mehta and Chatterji, 2001; Heitmeyer, 2009; Williams, 2015). The responsibility of preserving peace largely

²²For private practice (prayer), which is highly right-skewed, we used the value just below the median because the median and the maximum value were the same. Even with this adjustment, the sample is fairly evenly divided for the two models evaluating this factor (56% of the sample is “Low,” while 44% is “High”).

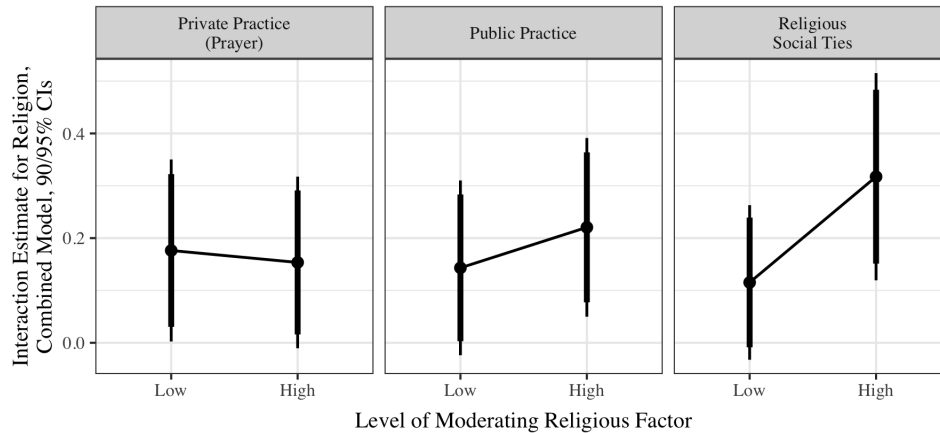


Figure 3: Estimates of Main Analysis Interaction Coefficient, by Religiosity Variables.

lies on the shoulders of Muslim members, producing what [Das \(2006\)](#) argues is an “ecology of fear” among Muslims. [Jeffrey et al. \(2008\)](#), for example, observe the moderation of Islamic identity among young Muslim men in rural Uttar Pradesh as a strategy to avoid negative feedback. Self-policing by Muslims extends to collective action around public goods provision. An ethnographic study of communal peace in the North Indian city of Varanasi illustrates elements of defensive cooperation ([Williams, 2015](#)). Unlike Hindus, Williams finds, Muslims do not respond to inferior welfare provision through public protests because they fear attracting negative attention, which could potentially worsen social discrimination and religious tensions. Instead, they establish autonomous welfare institutions to improve the living conditions of community members. Similarly, in a predominantly Muslim slum in our study, we observed that local leaders were anxious about the possibility of communal riots and organized “peace” committees to mobilize local residents, even during periods of calm. These local elites were widely respected in their communities and seem to be involved in all major collective decision-making. Interestingly, they also ran local voluntary organizations involved in community welfare provision, including education, childcare, and healthcare initiatives. We observed NGOs and government-run social services in Hindu slums, but such community-led welfare organizations were rare among Hindus in Delhi.

6.1 Alternative Explanations

Could other differences between Hindus and Muslims predict their relative willingness to contribute to the collective good? Caste-based norms and rigid social hierarchies have been linked to inferior service delivery outcomes, including poor sanitation, among Hindus (Banerjee et al., 2005; Geruso and Spears, 2018; Hoff et al., 2011). Or perhaps our results reflect stronger norms of altruism among Indian Muslims? Could differences in political trust or local leadership in the two communities be at play? How can we be sure that our findings reflect defensive cooperation, as we argue, rather than other behaviors associated with minorities? In this section, we address an array of potential alternative explanations for our findings.

We begin by examining three attributes of Muslim culture in the Indian context that may be relevant for cooperation around drainage provision. First, religious practices of charitable giving may make Muslims more likely to contribute to public goods. *Zakat*, or charitable donations, is one of the five pillars of Islam and observant Muslims in South Asia carry out this religious obligation. According to a study conducted in 2000, *Zakat* amounted to \$11.5 million (867 million rupees) in Indian towns and cities (Gayer and Jaffrelot, 2012) and was often directed to support community institutions, such as mosques and religious schools (*madrasas*). Our data indicate that Muslims donate slightly more than Hindus (4.47 versus 4.32 on a 1 to 5 scale), but we do not find an interaction effect of this measure with the treatment (see Section 4.4 of the Appendix).

Second, the caste system is less rigid among Indian Muslims than Hindus. The absence of strict norms of purity, pollution, and social separation has allowed for greater social mobility within the Muslim community in India (Mines, 1972). To the extent that horizontal social ties facilitate coordination, this relatively egalitarian social structure may also provide greater scope for collective action as compared to Hindus, whose rigid caste-based stratification has been shown to hinder cooperation (Banerjee et al., 2005; Hoff et al., 2011). Though Hindu communities feature more lower-caste individuals (see Section 2.5 in the Appendix), caste does not affect our results. Measures of caste divisions are not significant when included in the main model (see Table 4). Additionally, caste does not interact with the treatments in a similar fashion to religious identification, with

no significant difference between low and high caste individuals in the treatment effects (see Section 4.11 of the Appendix). This accords with a number of recent studies on urban India, which emphasize that caste is not a major determinant of cooperation around public goods (Auerbach and Thachil, 2018; Chidambaram, 2020). Alternatively, some scholars emphasize the salience of regional identity in collective action in Indian slums, especially among migrant workers (Auerbach and Thachil, 2018; Gaikwad and Nellis, 2021). Our results remain consistent after we control for variables that measure aspects of citizenship – years of residence and identification with Delhi (see Appendix Section 3.3).

Finally, Hindu caste norms of purity and pollution may bear directly on sanitation practices in the two communities. Geruso and Spears (2018) argue that cultural differences between the two communities explain better sanitation practices among Muslims. Hindus are 25 percent more likely to defecate in the open since human excreta is perceived to pollute the home. Nonetheless, in our study of drainage rather than toilets, Muslims in the sample showed no more concern for drain cleaning than Hindus (see Table 2). Religious cultural practices, such as participation in communal religious activities, are not associated with an interactive effect with the treatments. Additionally, there is good reason to question the relevance of norms of purity and pollution in the context of urban slums since open defecation is largely a rural phenomenon in India. About 92% of households without access to toilets are located in rural areas (Spears and Thorat, 2019). Further, notions of purity are strongest among upper caste members yet, in the urban context, a large section of the population in slums is composed of residents from lower caste backgrounds (Banerjee et al., 2012). Members of different caste groups live in close proximity to each other where the quality of sanitation facilities is often poor. In urban slums, it is therefore difficult to remain faithful to caste-based norms of purity.

Beyond differences in cultural practices, we address other possible alternative explanations—differences in political trust, the influence of local leaders, and other minority behaviors—to account for variation in cooperative behavior between Muslims and Hindus. First, Muslims may respond more to primes of accountability and ingroup failure because their low levels of trust in state

institutions make them more open to non-state options. To evaluate the effects of political trust, we examine differences in levels of trust between Hindus and Muslims in specific institutions and then compare the interaction effects between the treatments and these ratings. Appendix Section 4.5 treats this alternative explanation in great detail, and we find strong evidence *against* it. In particular, in measuring levels of trust on a 1-4 scale, there is almost no difference between Muslim (2.12) and Hindu (2.14) levels of trust in the Municipal Corporation of Delhi (MCD), the primary government institution responsible for local infrastructure such as drainage in Delhi slums.

We also consider the possibility that differences in relations between residents and local leaders in the two communities drive the differential results across Hindus and Muslims. We focus on informal community leaders, or *pradhans*, who play an an important role in local collective action and often serve as brokers between the state and local residents (Auerbach, 2016; Auerbach and Thachil, 2018). Most Muslims in our sites, however, lack knowledge of their neighborhood *pradhans*, which suggests that the differential role of local leadership does not account for our results. Two-thirds of Muslim respondents could not evaluate their neighborhood *pradhan*, with 39% stating that their neighborhood does not have one, and another 28% saying they do not know their *pradhan* well enough to evaluate them. Further, though our sample size does not afford sufficient statistical power, we find suggestive evidence that the effects of vertical accountability (through local leaders) is weaker as compared to the black sheep effect and horizontal accountability (see Section 4.12 of the Appendix).

Finally, we examine other possible minority behaviors as alternative explanations to defensive cooperation. First, "egoist behavior" reflects 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 should want to contribute more, regardless of treatment assignment, because they are surrounded by ingroup members—leading to null effects among this group. Our findings do not support this account. Muslims in Muslim-majority areas have an effect size equal to or larger than our main effect (see Section 4.8 in the Appendix).

Conversely, a “localized minority effect” would predict 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. Indeed, an implication of both the egoist and localized minority explanations is that Muslims in Muslim-majority areas in our sample should, like Hindus, show little to no effect of the treatment. In fact, the opposite is true: As demonstrated in Section 4.8 of the Appendix, the treatment effect among Muslims in Muslim majority areas has a higher estimate (0.25) than our estimate for the sample as a whole. Thus, we do not find support for the egoist and localized minority effect interpretations of the findings. In the context of prolonged marginalization and persecution, we expect that Muslims are concerned about the ingroup’s reputation and safety more generally - not only in the face of their immediate neighbors.

7 Conclusion

To uncover the microfoundations of the “diversity deficit” hypothesis in the literature on diversity and development, scholarship examines the role of social norms that facilitate cooperation in homogeneous communities (Habyarimana et al., 2009). Among neighbors and peers, this may take the form of community social sanctions, through measures like public shaming and gossip. Alternatively, top-down or vertical enforcement through pressure from local leaders can also promote cooperative behavior. Our research highlights an additional mechanism that may moderate the relationship between diversity and local public goods provision – *minority status*. In similarly disadvantaged communities in Delhi, we find that Muslims are more likely to respond to social norms around cooperation as compared to the majority Hindus. Evidence from our survey, qualitative fieldwork, and existing research suggest that this may be a manifestation of *defensive cooperation*, which is largely driven by Muslims with stronger social ties to their group. For members of persecuted minorities, social norms are not just determined by ingroup dynamics, but are also

shaped by intergroup relations in a context of sociopolitical exclusion and threats of violence. Perceived violations of norms can be especially vexing for members of a minority when perpetrated by ingroup members, inviting strong efforts to police ingroup behavior.

Our work contributes to an emerging body of work that shifts the diversity-development debate to recognize the mediating role of intergroup differences. A number of studies push back against concepts of ethnic fractionalization that treat groups as equivalent, instead examining the effects of inequality between groups (Baldwin and Huber, 2010; Kustov and Pardelli, 2018). Our approach further widens the concept of group-based inequality by highlighting variation not just in socioeconomic outcomes across groups but also of relative group status. Recent research emphasizes the role of social status in predicting voting behavior (Suryanarayan, 2019), state capacity (Suryanarayan and White, 2021), and redistribution (Chakrabarti, 2020) in hierarchical societies. Status differentials generated due to discrimination against religious minorities can also have important implications for public service provision. In fact, we find that Muslim status is a stronger predictor of cooperation than caste. In contemporary India, the gap between Muslims and Hindus is manifested not only in socioeconomic differences but also in social status, with high stakes for Muslims who are increasingly persecuted. Beyond India, these findings likely resonate broadly because many developing countries suffer from poor public goods provision in urban slums and encompass residents from unequal status groups.

Our findings suggest multiple areas for further research. First, the research program on intergroup politics should incorporate greater attention to status differences across groups and their potential consequences for *intragroup* dynamics. In particular, scholars should develop and test contextually valid measures that tap into the ways in which members of low status groups might adopt attitudes and behaviors to police the behavior of fellow group members or develop institutions that foster greater solidarity as coping mechanisms against hostile and exclusionary treatment by the dominant group. Second, our study identifies and begins to explore potential mechanisms for the apparent minority effect in intergroup exchanges around local public goods. In future work, we plan to gather additional qualitative and quantitative data to further assess how membership in a persecuted

minority group shapes norms around contributions to communal goods.

From a policy perspective, our study highlights the unique challenges of public service provision for members of minority groups in informal settlements in a world characterized by rapid urbanization (United Nations, 2019). Drainage and sanitation is a clear failure of public goods provision in the slums of Delhi and many mega-cities in other developing countries, prompting residents to look beyond the state for solutions. In ethnically diverse communities, however, collective action to provide local public goods may be all the more challenging when residents must overcome status hierarchies. In our study, members of the dominant (Hindus) and subordinate (Muslims) groups expressed relatively strong interest in the program, but only the latter responded positively to hypothetical mechanisms aimed at promoting contributions to the collective good. If collaboration across status divides exacerbates the well-known challenges of public goods provision in diverse communities, then local officials and community representatives must account for the specific circumstances facing persecuted minorities as they confront the demands of urban governance on a scale unprecedented in human history.

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