Beliefs That Bind: Religion Creates Shared Moral Order

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Scholars have long argued that religion helps sustain social order by binding individuals into a shared moral community. Yet this coordinating role has rarely been tested directly. We test it in a lab-in-the-field experiment with 720 participants in rural Bangladesh. Participants are randomly exposed to a moralizing Islamic figure (Pir), a traditional supernatural agent (Gunin), or neither. We measure honesty and elicit both personal moral views and injunctive norms—participants' beliefs about how acceptable others in their community consider dishonesty. Making the Pir salient increases honesty and strongly shifts injunctive norms, while having little effect on participants' own moral views. It thereby closes about 40 percent of the pluralistic-ignorance gap; the Gunin has no comparable effects. Reanalyzing published data from 15 diverse societies and religions, we find further evidence that the coordinating role of moralizing religion extends beyond our experimental setting. Our findings provide evidence that moralizing religion can align communities around common moral expectations, helping sustain a shared moral order.

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1. Introduction

Sustaining social order is essential for societies to flourish. Yet the reach of formal institutions is limited; much social and economic interaction involves behavior that is difficult or impossible to monitor or regulate formally. From Smith (1759) to Durkheim (1912), scholars have argued that religion can help sustain social order. Durkheim, in particular, emphasized that religion has a key social function: it binds individuals into a moral community, creating a shared understanding of appropriate behavior.

More recently, a growing economic literature has examined how religion affects behavior and economic outcomes (Iannaccone, 1998; McCleary & Barro, 2006; see Iyer, 2016 and Becker et al. 2024 for an overview). Closely related to the social order argument, the cultural-evolutionary "Big Gods" hypothesis holds that beliefs in moralizing gods can sustain prosociality among strangers through supernatural monitoring and punishment, thereby aiding the formation of large-scale societies (Norenzayan, 2013; Norenzayan et al., 2016; Purzycki et al., 2016). By now, a large empirical literature has examined whether religion affects prosocial behavior (e.g., Shariff and Norenzayan, 2007; Benjamin et al., 2016; Gershman, 2016; Bergeron, 2025).

What has received far less attention is the coordinating role of religion emphasized by Durkheim. Moralizing religions may affect individuals' own moral convictions directly. Yet, it may also shape what they believe others in the community consider right or wrong – their injunctive norms. This matters because norm following depends in part on such beliefs about others: people are more likely to follow a norm when they believe that others in their community share it (Bicchieri, 2006; Krupka & Weber, 2013; Kimbrough & Vostroknutov, 2016). In fact, pluralistic ignorance, misperceptions about others' views can even sustain behavior that many individuals privately disapprove of (Bursztyn et al. 2020; Andre et al., 2026). Religion may thus play a crucial role in coordinating behavior by shaping beliefs about prevailing injunctive norms and reducing such pluralistic ignorance. This leads to a specific prediction: moralizing religion should shape injunctive norms -- what individuals believe others in their community regard as appropriate – potentially reducing pluralistic ignorance.

We test this hypothesis in a lab-in-the-field experiment with 720 Muslim participants in 20 villages in rural Bangladesh. This is an ideal setting because it allows us to exploit the

coexistence of a moralizing religious belief system and a traditional supernatural belief system not centered on moral guidance. Participants are randomly assigned to a treatment that makes salient a Pir, an Islamic religious figure associated with moral guidance; a treatment that makes salient a Gunin, a traditional supernatural practitioner associated with healing, protection, and harm; or a control condition. In the two treatment groups, the respective figure is made salient through a labeled donation envelope that remains visible throughout the experimental tasks; in the control group, the donation decision is introduced only afterward. Subsequently, we examine whether exposure to a moralizing religious figure affects not only prosocial behavior, but also individuals' own moral views and injunctive norms -- what they believe others in their community regard as appropriate.

We study these effects in the domain of honesty. Honesty provides a particularly useful setting because dishonest behavior is often difficult or impossible to observe and therefore difficult to regulate through formal enforcement. We measure honesty using the Random Allocation Game (Hruschka et al., 2014), in which participants are told to privately allocate resources between themselves and an anonymous stranger according to the outcome of a random device. Because compliance with the allocation rule cannot be observed, participants can increase their own payoff by violating it without being detected, even by the experimenter. We then elicit both personal normative beliefs—what participants themselves consider socially acceptable—and injunctive norms—what they believe others in their community consider socially acceptable. Injunctive norms are incentivized following Krupka and Weber (2013): participants are rewarded for correctly predicting the most common response of others. Because the incentive is to match others rather than to report a private view, the elicitation is itself a coordination game over social appropriateness, which makes it the natural experimental tool for a hypothesis about coordination according to shared expectations.

We first establish that the treatments affect behavior in line with the Big Gods hypothesis. In the control group, participants allocate 63 percent of the resources to themselves, 13 percentage points above the 50 percent benchmark expected under honest play. In the Pir treatment, which makes salient an agent associated with moralizing deity, participants behave more honestly, allocating on average 57 percent to themselves. By contrast, under the Gunin treatment, which makes salient a traditional supernatural practitioner, participants allocate 61 percent to themselves, statistically indistinguishable from the control group. Thus, making the moralizing

religious figure salient increases honest behavior, whereas making the traditional supernatural figure salient does not.

We next test our central hypothesis: whether moralizing religion shapes beliefs about prevailing norms. The Pir treatment has only a modest effect on participants' own views about the acceptability of dishonesty. By contrast, its effect on injunctive norms—what participants believe others consider acceptable—is about three times as large: participants come to believe that others are likewise less accepting of dishonesty. The comparison between Pir and Gunin sharpens the result. The Pir and Gunin effects on personal normative beliefs are not substantially different from one another. Yet, the Pir effect on injunctive norms is significantly larger than the Gunin effect; roughly by a factor of three. The moralizing figure shifts what people believe about their fellow villagers' acceptance of dishonesty.

We also find substantial pluralistic ignorance. In the control group, participants are personally less accepting of dishonesty than they believe others are, indicating that they underestimate the extent to which their disapproval is shared. The Pir treatment closes about 40 percent of this gap, while the Gunin has little effect. Importantly, the treatment itself provides no direct information about other participants' normative views. Making the Pir salient therefore changes what participants believe others regard as appropriate without providing direct information on what others actually think. This is evidence on the coordinating role of religion that motivates our hypothesis.

Finally, we ask whether the coordinating effect reflects moralizing religion more generally, rather than idiosyncratic features of the Pir–Gunin comparison. We turn to the published cross-cultural RAG data of Lang et al. (2019), which includes 15 societies spanning Christianity, Hinduism, Buddhism, animism and ancestor worship. We find that stronger beliefs in the monitoring and punishment of moralizing gods are associated with less dispersed behavior within communities, whereas analogous beliefs about comparison supernatural agents are not. This cross-societal pattern closely mirrors our experimental findings in Bangladesh, where we find that the Pir treatment likewise reduces behavioral dispersion while the Gunin treatment does not. The consistency of the results across very different societies and religious traditions provides further support for a broader coordinating role of moralizing religion.

Literature -- Our findings contribute to the literature on religion and prosocial behavior in two ways. First, existing work has studied whether moralizing religious beliefs and religious salience affect prosocial behavior (Shariff & Norenzayan, 2007, 2011; Henrich et al., 2010; Purzycki et al., 2016; Benjamin et al., 2016; Shariff et al., 2016; Lang et al., 2019; Valencia Caicedo et al., 2023). Other work shows that traditional supernatural beliefs can have very different consequences for trust and social behavior (Gershman, 2016, 2022; Le Rossignol, Lowes & Nunn, 2024; Dunia et al., 2024). Our contribution is to focus on the coordinating function of moralizing religion: whether it shifts perceived injunctive norms, reduces pluralistic ignorance, and coordinates behavior around a prosocial norm.

Second, our results relate to work showing that religious institutions can have persistent effects on social organization and behavior. Historical exposure to missions has been linked to long-run changes in human capital, trust, social ties, and prosociality (Valencia Caicedo, 2019; Okoye, 2021; Bergeron, 2025). Our experiment complements this work by providing direct evidence that exposure to a moralizing religious figure can shape beliefs about what others in the community regard as appropriate. Such shared expectations are central to the persistence of social norms because they can be self-reinforcing (Young, 2015). Our results therefore provide direct experimental evidence for the idea that religion can help sustain a shared moral order not only by affecting individual morality, but also by shaping beliefs about prevailing social norms.

More broadly, these findings connect our work to a growing literature in economics that draws on cultural evolution to understand the emergence and persistence of beliefs and behavior, and their coevolution with norms and institutions (Schulz et al., 2026). Social norms can be understood as self-reinforcing behavioral equilibria sustained in part by shared expectations (Young, 2015), while cultural group selection can favor norms and beliefs that support cooperation and coordination (Boyd et al., 2003; Henrich, 2004). Economics has increasingly examined this group-level logic. Francois et al. (2018) study the cultural selection of prosociality through competition between groups; Nunn & Sanchez de la Sierra (2017) show how socially beneficial supernatural beliefs can persist; and Bergeron et al. (forthcoming) show how socially beneficial, though inaccurate, beliefs can emerge and persist. Moralizing religion provides an important application of the same broader logic: cultural-evolutionary accounts argue that beliefs in monitoring and punishing gods helped sustain cooperation at larger scales (Norenzayan et al., 2016), an argument supported by experimental and cross-cultural evidence

linking such beliefs to prosocial behavior (Shariff et al., 2016; Purzycki et al., 2016; Lang et al., 2019; Valencia Caicedo et al., 2023). Our findings add a coordination dimension to this account. Moralizing religion not only promotes prosocial behavior; it aligns injunctive norms around prosocial conduct, reduces pluralistic ignorance, and coordinates behavior —even without providing information about what others actually believe. It can therefore help sustain shared prosocial norm equilibria.

2. Background and Context of Bangladesh

Bangladesh is an ideal setting to study how different supernatural beliefs shape honesty. The majority of the population identifies as Muslim (91%), yet traditional supernatural beliefs remain widespread. A 2012 Pew survey found that 84% of Bangladeshis believe in Jinns — supernatural beings believed to influence human affairs — and 21% believe in the evil eye. These patterns highlight the continuing coexistence of Islamic and traditional supernatural beliefs in everyday social life.

Ethnographic studies from rural Bangladesh show that people often seek help from supernatural agents for problems related to health, family conflict, financial hardship, and misfortune (Mullick et al. 2013; Sultana & Ahmed 2019). Interactions with these supernatural agents are socially meaningful in Bangladesh and often involve donations or monetary offerings. This makes donations a natural way to increase the salience of supernatural agents in our experimental setting. Donating money to supernatural agents, such as witches, spiritual healers, or religious figures, is a common practice in Bangladesh (Uddin, 2006; Connor & Samuel, 2001; Sultana & Ahmed, 2019). People donate for various reasons, including seeking blessings, protection, guidance, expressing gratitude and devotion, and fulfilling religious obligations. Previous research shows that increasing the salience of religious concepts, such as through exposure to religious symbols or moral narratives, can affect ethical behavior and generosity (Shariff & Norenzayan, 2007; Preston & Ritter, 2013). In our setting, the opportunity to donate to the supernatural agent activates its salience during decision-making.

The two supernatural agents in our study differ fundamentally in their association with moralizing religion. The Pir is strongly tied to Islam and Sufism, linked to the concept of a moralizing Big God who oversees human behavior and enforces moral norms (Ahamed, 1983; Halim, 2018). The Gunin draws on indigenous spiritual practices rather than Islamic doctrine.

Pir, an Islamic agent

Pirs are regarded as holy individuals and spiritual guides, serving as intermediaries between the divine and their followers (Halim, 2018). They have historically reinforced Islamic values and social norms (Huque & Akhter, 1987; Halim, 2018), and are associated with mystical and Sufi traditions emphasizing personal spirituality, blessings, and miracles (Mayer, 1967). Unlike imams — who primarily lead prayers and provide religious instruction in mosques — Pirs occupy a distinct spiritual role centered on personal moral guidance, the dispensing of blessings, and direct intercession on behalf of followers.[1] Many people also seek their guidance for material well-being, asking for blessings or prayers in times of illness and hardship, and donate to them as an expression of devotion and religious obligation (Al Masud, Abdullah, & Amin, 2017).

Gunin, a Traditional agent

Gunin — also known as Kabiraj — are traditional healers who specialize in treating illness and resolving personal difficulties through magical practices, including the chanting of mantras and the provision of amulets or talismans (Karim, 1988; Chakrabarty, 2021). Unlike the Pir, the Gunin's authority is rooted in traditional beliefs rather than Islamic moral doctrine. Gunin are believed to use their supernatural abilities both for healing and, in some cases, to inflict harm — often invoked to counteract witchcraft or the evil eye attributed to jealousy or envy (Haque et al., 2018). Donating to Gunin in exchange for protection or solutions to personal problems is a common practice in rural Bangladesh (Sultana & Ahmed, 2019).

3. Data and Methods

3.1. Study area and Sampling

Our study was conducted in Khulna and Satkhira Districts, in the Khulna Division of southwestern Bangladesh, where beliefs in Pir and Gunin are familiar and locally meaningful — making the setting well suited for studying how exposure to supernatural agents shapes honesty and social norms. The three subdistricts covered — Assasuni, Paikgachha, and Koyra

[1] While imams derive authority from formal religious training and institutional roles within the mosque, Pirs derive authority from perceived spiritual power, lineage, and personal charisma. This distinction is well established in the South Asian Islamic tradition (Mayer, 1967; Ali, Milstein, & Marzuk, 2005; Padela et al., 2011).

— are organized into 28 local government unions (Union Parishad, or UP), each comprising roughly 15 to 20 villages. We randomly selected 10 of the 28 UPs to ensure representativeness of the broader study area, and within each selected UP randomly sampled two villages. Because only a small fraction of villages is drawn per UP, selected villages are rarely adjacent, limiting cross-village spillovers. This yielded 20 villages in total (Figure A1). The target sample of 720 participants — 36 per village, 240 per treatment arm — was set by pre-registered power calculations (AEA RCT Registry: AEARCTR-0010944). Within each village, four enumerators approached households simultaneously from four sides, selecting every third household. An adult member above the age of 18 was invited to participate, with female members targeted in every second household to achieve a balanced sample by sex. We restricted the sample to Muslim participants, consistent with the predominance of Islam in the study area (91%) and the coexistence of Gunin among Muslims.[2]

3.2. Treatment Description

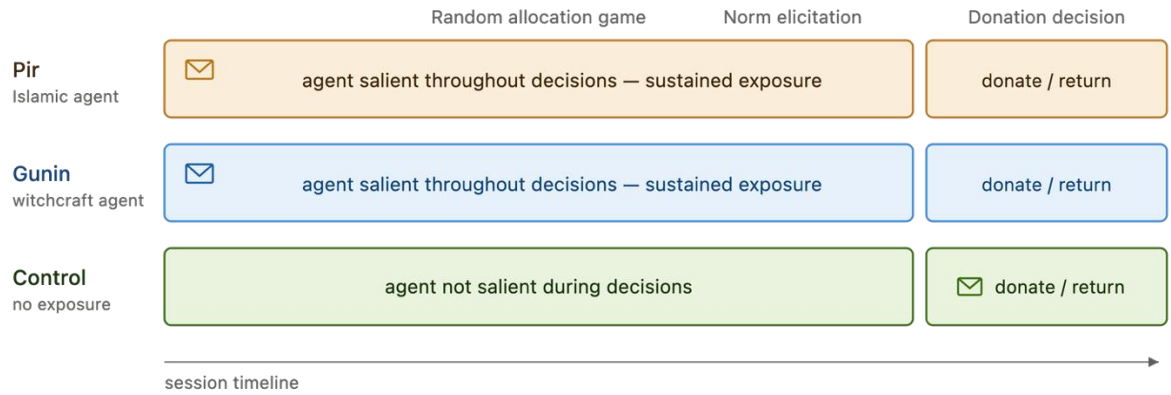
To investigate the causal effects of exposure to supernatural agents on honesty, we implemented a lab-in-the-field experiment in which participants were randomly assigned to one of three conditions: *Pir*, *Gunin*, or *Control* (see Figure 1). At the beginning of the session, participants in the Pir and Gunin conditions were presented with 40 Taka (approximately 10 % of daily wages in rural areas), which was visibly placed into an envelope labeled with the name of either a well-known local Pir or Gunin. Participants were informed that this money would be donated on their behalf at the end of the day. The envelope remained visible next to the playboard throughout the entire session, providing sustained exposure to the relevant supernatural agent. After completing all tasks in the session, participants were asked whether they want to donate the 40 Taka to the supernatural agent or return it to the research institution (i.e., university).

Participants in the control condition were not exposed to the supernatural agent during decision making. They were only shown the 40 Taka at the end of the session, at which point they were given the option to donate to a randomly assigned supernatural agent (Pir or Gunin) or return the money. Participants in the control condition hence face the same donation decision, but only after completing the experimental tasks. This allows us to test whether sustained exposure

[2] If a Hindu household was encountered during the selection, the enumerator skipped that household and proceeded to the next eligible household.

to the Pir or Gunin changes participants' evaluation of the respective figure, as reflected in their willingness to donate (see Section 4.1.3). The Pir–Gunin comparison, meanwhile, holds the donation procedure and its timing fixed while varying the supernatural figure made salient.

Figure 1: Experimental design



Note: The envelope symbol marks the point at which the agent-labeled donation envelope (40 Taka) is placed in front of the participant.

3.3. Eliciting Honesty: Random Allocation Game

We implemented the non-strategic Random Allocation Game (RAG) to measure honest behavior (Hruschka et al., 2014; Purzycki et al., 2016; Lowes et al., 2017). In each round, participants were given a six-sided die with three black and three white sides, along with a stack of 10 plastic chips, each worth 20 Taka (200 Taka in total). This amount is approximately 1.70 Euros, equivalent to nearly half a daily wage in rural Bangladesh. Participants were instructed that they could divide the chips between themselves and another individual — a randomly selected citizen from another village in Khulna or Satkhira District. Matching participants with an anonymous stranger rules out social ties, reciprocity, and reputational motives, isolating honesty toward an unknown other — the cooperation among strangers central to the Big God hypothesis.

For each decision, the participant first mentally chose one of the two envelopes, one labeled self and the other labeled other, without physically marking or indicating their choice. They then rolled the die once. If the die landed on a black side, they placed the chip in the envelope they had mentally chosen. If the die landed on a white side, they placed the chip in the other envelope, the one they had not chosen initially. This process was repeated ten times, with participants allocating one chip per roll until all chips were placed into the envelopes. To ensure complete privacy, experimenters left the private booth during the allocation process. After completing all rounds, participants placed both small envelopes into a larger envelope labeled with their ID number and sealed it. The enumerators then collected the sealed envelopes and transported them to a central office, where they were opened by the main researcher who only had access to the participants' ID numbers and would never disclose the contents.

A key feature of the game is that participants could engage in mental cheating, as the experimenter had no way of verifying the initial mental choice before rolling the die. Participants could, for example, claim to have associated the more favorable outcome with themselves after observing the result, rather than adhering to their original mental choice. Since decisions were made in private, any misreporting would remain undetected. This design enables the measurement of dishonest behavior by comparing the expected statistical distribution of allocations under truthful reporting with the actual distribution observed in the experiment.

To ensure comprehension, participants were required to answer four test questions before proceeding with the game. Those who answered all four questions correctly were allowed to play in private. If a participant made at least one mistake, the experimenter re-explained the procedure and repeated the test questions, recording the number of attempts. Participants could only proceed once they correctly answered all questions (see Appendix for the experimental script). Once comprehension was confirmed, the experimenters left the private booth, and participants made their decisions in full privacy.

3.4. Eliciting social norms

Our central hypothesis concerns whether moralizing religion shapes beliefs about prevailing social norms. We therefore complement the behavioural measure with two distinct normative measures: personal normative beliefs — participants' own assessments of the acceptability of different allocations — and injunctive norms — incentivized beliefs about what others in the community consider acceptable. Separating the two allows us to examine whether moralizing religion affects participants' own moral views and their beliefs about prevailing social expectations differently. It also allows us to explore pluralistic ignorance—the gap between individuals' own normative views and what they believe others regard as appropriate.

To measure personal normative beliefs, we assessed participants' views on the acceptability of different actions in the RAG. Participants were presented with the scenario: "Assume that out of 10 rounds, the die lands in your favor 5 times." They rated the social acceptability of allocating 5, 6, 7, 8, 9, or 10 chips to themselves on a four-point scale from "very socially unacceptable" to "very socially acceptable." Allocating 5 chips (5/5) corresponds to truth-telling; all remaining scenarios (6/4 through 10/0) correspond to lying. To elicit injunctive norms, participants then predicted the most common response given by others for the same six scenarios — incentivized at 50 Taka for a correct match, with one scenario randomly selected for payment. This approach follows the elicitation method of Krupka and Weber (2013), ensuring that participants reveal their true beliefs about prevailing social norms.[3]

[3] We also elicited incentivized descriptive norms. Given our focus on the role of religious beliefs, injunctive and personal norms are more conceptually informative: they capture perceived moral obligations and internalized values rather than behavioral expectations alone. Descriptive norms closely mirror participants' own allocation behavior across treatment groups (see Figure A3 and Table A12), consistent with this focus.

3.5. Donation decision

At the end of the session, participants were asked whether they wanted to donate the money to the supernatural agent (Pir or Gunin) or return it to the experimenter. The experimenter presented two boxes to the participant and placed them in front of them — one labeled 'Donation' for contributing to the supernatural agent and another labeled 'Return' for giving the money back. The donation decision serves a dual purpose. As described above, including a donation option in the control condition was deliberate: it ensures that the difference between conditions is sustained exposure to the supernatural agent during the honesty task, not the mere act of donating. To further unpack what drives giving, we randomly varied whether the donation decision was made in the presence of the experimenter or in private.[4] This allows us to test whether donation behavior is driven by intrinsic motivation or social image concerns.

3.6. Experimental procedure

Our procedures closely followed those set out by Henrich et al. (2006), specifically designed for field experiments in small-scale societies. In each village, 36 participants were selected via the household sampling procedure and asked to participate in the experimental task on the next day. Participants were invited to the local public place and summoned to a waiting area (Waiting Area 1). In this waiting area participants were allowed to talk with each other. However, the waiting area was observed by research assistants (RAs) to avoid contact with other villagers or participants who finished the game already. Next, we selected 12 participants (6 male and 6 female) from the pool in the waiting area and asked them to join the pre-experimental waiting room. In this waiting room, participants were not allowed to talk. They received a show-up fee of 100 Taka (approximately 25% of daily wages in rural areas), an ID card, and a set of envelopes, and they signed the consent form and registration log (see Appendix B for details). After the registration process, one of the researchers explained the basic instructions of the experiment to the whole group. To facilitate comprehension, the game was illustrated using a playing board and chips. In addition, frequently asked questions were discussed to make sure everyone understood the instructions correctly. The researcher explained the matching procedure, in which each participant was paired with an anonymous, randomly selected individual from an adjacent village, and emphasized that all decisions would be made in private.

[4] We find no significant differences between public and private donation decisions (see Table A3 in the Appendix); these results are discussed in more detail in the results section.

After receiving the initial instructions, participants moved to a second waiting area (Waiting Area 2), where they were individually assigned to private booths. Six private booths were used — three for male participants and three for female participants. To avoid gender-specific experimenter demand effects, a male experimenter was assigned to the male participants, and a female experimenter was assigned to the female participants. Each experimenter received a randomly shuffled set of protocols containing the experimental script for one of the three condition: control, Pir treatment, and Gunin treatment.[5] This ensured that participants were randomly assigned to conditions while also reducing the cognitive load for experimenters. In the private booths, the experimenter briefly explained the games and tested participants' comprehension by showing some examples. We recorded the number of mistakes in the comprehension questions.[6] After the games, participants conducted the post-experimental questionnaire including items on religious beliefs, religiosity, supernatural beliefs, trust, confidence, relatedness, envy, zero-sum thinking, and socio-demographic characteristics.

4. Results

4.1. Descriptive results

4.1.1. Sample characteristics and randomization

Sociodemographic characteristics of respondents are reported in Table A4. On average, participants are 37 years old with 8 years of schooling; 63% have television access and 32% internet access. We find no significant differences across treatment arms in sociodemographic characteristics, religiosity, beliefs in supernatural agents, risk preferences, altruism, or other attitudinal measures (Table A4–Table A6 and Table A9), confirming successful randomization.

[5] Participants also played the Gneezy and Potters (1997) investment game, always starting with individual risk (IR), followed by positively and negatively correlated risk (PCR/NCR, order varied), then the RAG, and finally the donation decision (private or public). This sequence was applied across all three treatment arms, yielding four protocols per arm (Table A1). We find no evidence of order or investment condition effects on honesty (Table A18–Table A21). Investment game results are analyzed in a separate study.

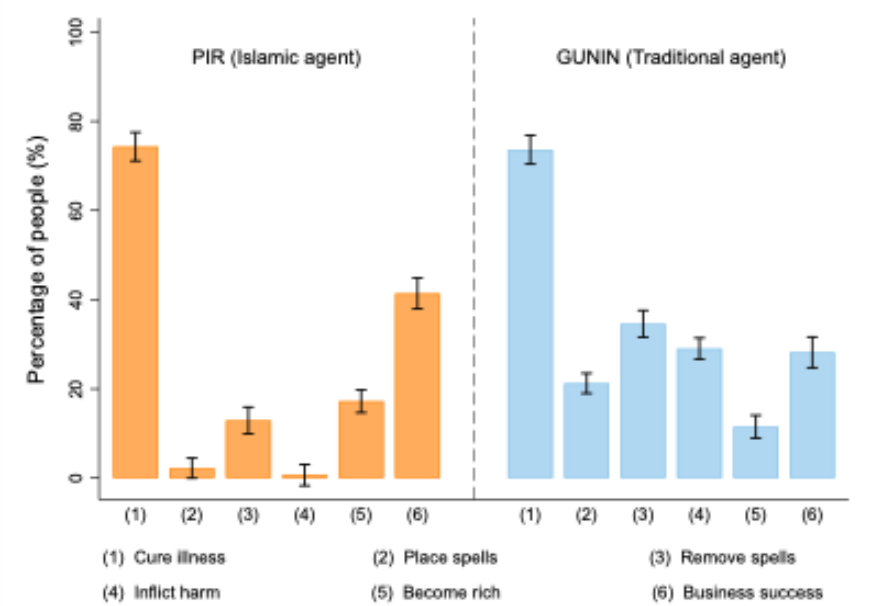
[6] Comprehension was high overall: of the 720 participants, 310 (43.1%) required no repetition of the comprehension questions, 292 (40.6%) needed one, 95 (13.2%) two, 21 (2.9%) three, and only 2 (0.3%) four or more — so over 83% understood the task after at most a single repeat.

4.1.2. Perceived roles of supernatural agents

Figure 2 characterizes how participants perceive the two agents. Panel A shows that both are widely associated with healing: ~74% link each agent to curing illness. Beyond healing, however, their perceived domains diverge. Pirs are more associated with financial matters (business success: 41% vs. 28%; becoming rich: 17% vs. 11%), whereas Gunins are more associated with supernatural harm — placing spells (21% vs. 2%), curing spells (34% vs. 12%), and inflicting harm (29% vs. 1%) (MW-test: all $p < 0.001$); these perceptions do not differ across treatment groups (Table A7Table A8). This reinforces our central claim that Pirs and Gunins are not interchangeable supernatural stimuli but qualitatively different belief systems — the Gunin bound up with a limited-good whereas the moralizing Pir is not.

Figure 2: Perceptions of PIRs and GUNINs and Their Association with Zero-Sum Thinking

Panel A: Reasons to contact PIR or GUNIN



Notes: The figure reports the share of respondents who identify each reason for contacting a Pir (Islamic agent) or a Gunin (Traditional supernatural agent). Respondents could select multiple reasons; shares therefore do not sum to 100%. 95% confidence intervals shown. N=720.

4.1.3. Donation decision

Table A2 presents actual donation decisions made at the end of the experiment, showing that 55% of participants donated either to the Pir or Gunin. However, there is a significant difference between the two agents: 73% donated to the Pir, while 37% donated to the Gunin (MW-test: $p < 0.001$).[7] The difference in donation rates suggests a stronger attachment to the Pir (Islamic agent) compared to the Gunin (traditional agent), possibly reflecting variations in perceived influence, normative expectations, or spiritual significance. However, regardless of individual motivations, the substantial amount of donations to both agents highlights their continued relevance within the local belief system.

[7] We report averages across the control and treatment groups. Table A2 shows donations decisions for the control group and treatment groups separately. In the Pir treatment, 72% donated, compared to 40% in the Gunin treatment (MW-test: $p < 0.001$). In the control group, 74% donated to the Pir and 32% to the Gunin (MW-test: $p < 0.001$).

4.2. Effect of Exposure to Supernatural Agents on Honesty

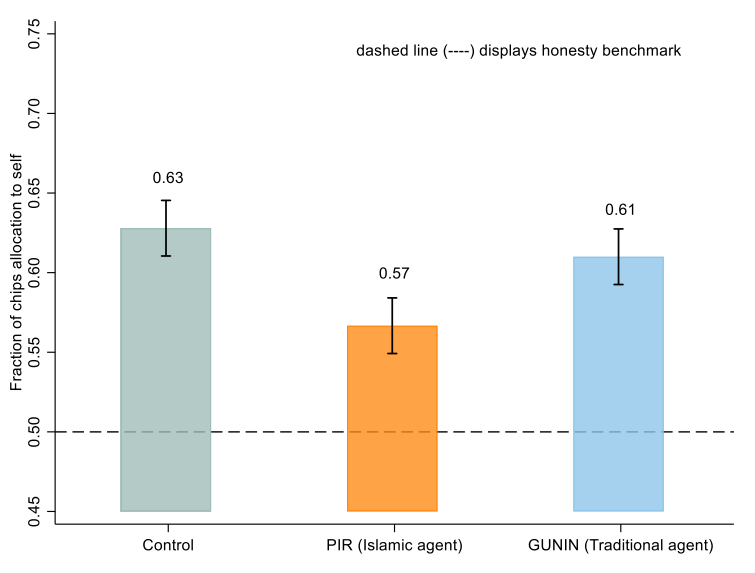
Panel A of Figure 3 reports the mean share of chips allocated to the respondent's own envelope, normalized to a [0, 1] scale where 0.5 is the honest benchmark. On average, participants in the control group claim 63% of the chips for themselves. This share falls to 57% in the Pir treatment, reducing dishonest behavior by 6 percentage points relative to control. In the Gunin treatment, the claimed share is 61% and statistically indistinguishable from the control mean. Both the Pir–control and Pir–Gunin differences are statistically significant (MW test: $p < 0.001$ each). Mean allocations across all three conditions deviate significantly from the 0.5 benchmark ($p < 0.001$ in all cases) but far from full dishonest benchmark of 1, indicating prevalent limited dishonest behavior in the studied population.

Panel B of Figure 3 shows the distribution of chip allocations across treatment groups. Participants in the Pir treatment were more likely to allocate four or five chips to themselves, whereas those in the control and Gunin treatments tended to allocate six or more, suggesting greater rule-following in the Pir condition. In the Pir treatment, 35% of participants adhered to the honesty benchmark, compared to 21% in the control and 22% in the Gunin group (see Figure A2). Both pairwise differences are statistically significant (Pir vs. control and Pir vs. Gunin, MW test: $p = 0.002$).

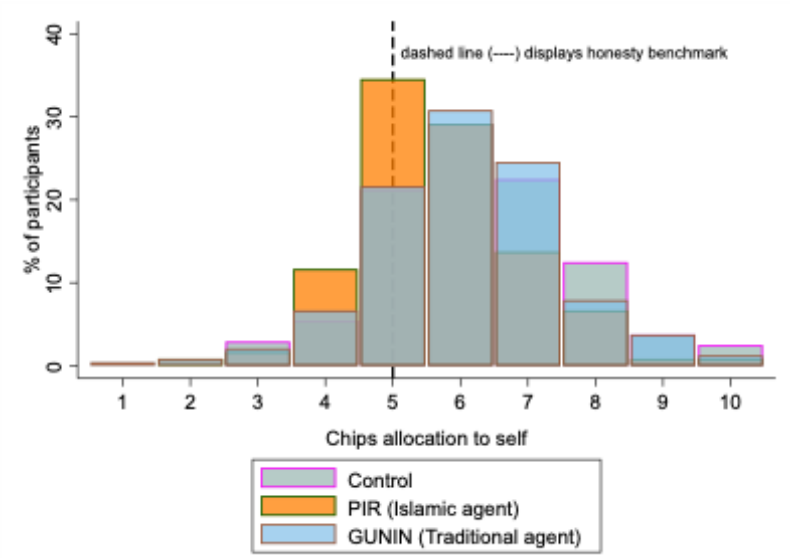
Table 1 confirms that these differences are robust to progressively richer controls. We estimate OLS regressions adding comprehension and experimenter and village fixed effects (Column 2), and sociodemographic and religious characteristics, risk-taking and prosociality (GPS), and zero-sum thinking (Column 3). The Pir coefficient — both relative to control and relative to the Gunin — is stable across all specifications and highly significant ($p < 0.001$), while the Gunin effect remains insignificant throughout. Results are also robust to excluding participants who required repeated explanations during the comprehension exercise (Table A11).

Figure 3: The effect of exposure to supernatural beliefs on dishonesty

Panel A: Mean allocations across the treatments



Panel B: Distributions of allocation across the treatments



Note: Panel (A) shows the average fraction of chips allocation for control, PIR (Islamic agent) treatment and GUNIN (Traditional agent) treatment, respectively. The dashed line shows the benchmark for honesty (50% of chips allocation to own envelope). 95% confidence intervals are shown. Panel (B) shows the distribution of chips allocation across the treatment groups.

Table 1: The effect of exposure to supernatural beliefs on dishonesty

	Chips allocation to self-envelope (0-1)		
	(1)	(2)	(3)
PIR (Islamic agent)	-0.061***	-0.062***	-0.060***
	[-0.088, -0.035]	[-0.088, -0.036]	[-0.089, -0.033]
GUNIN (Traditional agent)	-0.018	-0.014	-0.015
	[-0.041, 0.006]	[-0.037, 0.008]	[-0.038, 0.007]
R-squared	0.034	0.127	0.170
Observations	720	720	720
LinCom: PIR - GUNIN	-0.043***	-0.047***	-0.045***
	[-0.076, -0.027]	[-0.077, -0.030]	[-0.076, -0.026]
Comprehension	-	✓	✓
Experimenter fixed effect	-	✓	✓
Village Fixed effect	-	✓	✓
Sociodemographic controls	-	-	✓
Religious controls	-	-	✓
Risk taking and prosociality (GPS)	-	-	✓
Zero-sum thinking	-	-	✓

Note: The table reports OLS estimates of the effect of exposure to supernatural agents on honesty behavior. The dependent variable is the share of chips allocated to the self-envelope, ranging from 0 to 1, with higher values indicating more dishonest behavior. The sociodemographic controls are age, education, access to TV, access to the Internet, respondents' community leadership, family size, family type, household income, and number of earning members of the households. The religious controls are attending the mosque or praying, belief in PIR, belief in GUNIN, contact with PIR, and contact with GUNIN. Risk taking and prosociality are measured using survey items adapted from the global preference survey (GPS). Zero-sum thinking is a summary index constructed from the following five items: (i) a person can only gain power by taking it away from others; (ii) a person can only gain happiness by taking it away from others; (iii) if one person in a village becomes very wealthy, other people in the village will become poorer; (iv) people in the region only make money when others lose money; and (v) businesses in the region only make money when others lose money. Higher values indicate stronger endorsement of a zero-sum worldview. ***, **, * indicate statistical significance at the 0.1% ($p<0.001$), 1% ($p<0.01$), 5% ($p<0.05$) levels, respectively. The 95% CIs (reported in square brackets) and significance levels are based on wild cluster bootstrap at the village level (with 1,000 replications).

A natural concern is that the salience of the donation decision, rather than exposure to the agent, drives our estimates, since the donation envelope is present during the session only in the Pir and Gunin arms. This channel is differenced out by the Pir–Gunin contrast: donation salience is common to both arms, so any effect operating through it would shift both relative to control. Empirically, only the Pir treatment affects honesty, and the Pir–Gunin difference is itself significant, so a donation-salience mechanism that is orthogonal to agent identity cannot account for the result. As an additional check, the donation decision included in the control arm lets us compare donation rates across all three conditions; these are statistically indistinguishable despite variation in the timing of the decision (Table A2), indicating that donation behavior does not differ across arms and that the donation procedure is comparable across conditions.

Finally, we examine whether social desirability bias could inflate the treatment effects. We address this concern in three ways. First, experimenter fixed effects are included in all

specifications, absorbing systematic differences in how enumerators were perceived by participants. Second, we interact treatment indicators with a single-item social desirability measure — participants' agreement with the statement "I want to be a respectful person in my village," rated on a 1–10 scale (Bandiera et al., 2020) — and find no significant interaction effects (Table A22). Third, if social image concerns influenced behavior, we would expect donation rates to differ between decisions made in private and those made in the presence of the experimenter; we find no such differences (Table A3). Together, these checks provide confidence that the observed effects reflect genuine behavioral responses to agent exposure rather than social desirability bias.

4.3. Moralizing gods and Social Norms

Section 4.2 establishes that exposure to the Pir — but not the Gunin — increases honest behavior. We now examine whether moralizing religion also shapes the shared moral order surrounding this behavior. We focus on both: personal normative beliefs (what individuals themselves consider acceptable) and injunctive norms (incentivized beliefs about what others consider acceptable). We first document that the Pir treatment shifts injunctive norms more strongly than personal beliefs (4.3.1). We then show that participants systematically misperceive others' views — a pattern of pluralistic ignorance that the Pir treatment reduces (4.3.2). Finally, we ask whether this greater alignment is also reflected in behavior, by examining whether allocation decisions become less dispersed when exposed to moralizing gods (Section 4.3.3).

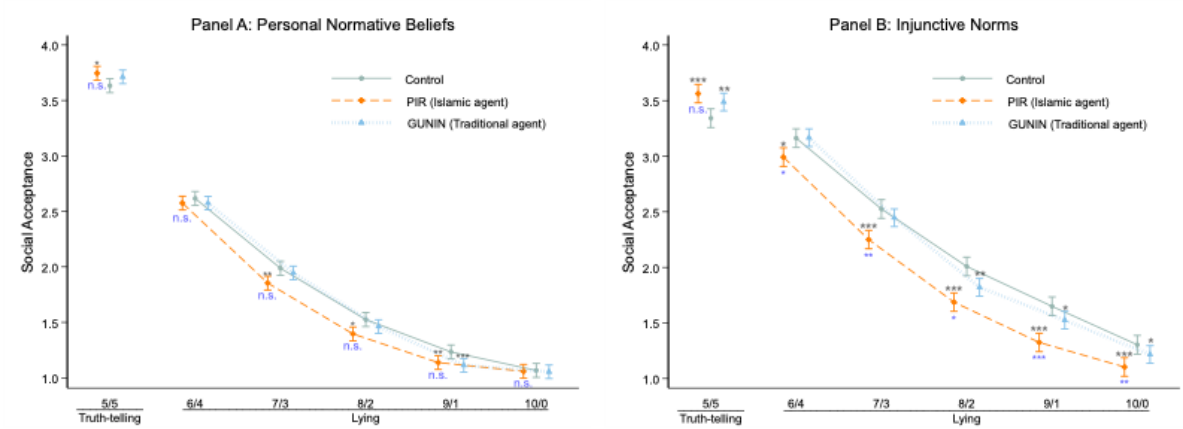
4.3.1. Treatment Effects on Honesty Norms

We examine how exposure to supernatural agents affects the social acceptability of truth-telling and lying in the RAG. Participants evaluated six scenarios — allocating 5/5 chips (truth-telling) and 6/4 through 10/0 chips (lying) — rating their personal normative beliefs and, in an incentivized task, their expectations of what others would rate as acceptable (injunctive norms).

Figure 4 shows the key result. For personal normative beliefs (Panel A), the Pir treatment increases the acceptability of truth-telling and reduces the personal views on acceptability of some lying scenarios relative to the control, but does not differ significantly from the Gunin treatment — suggesting personal beliefs are hardly differently affected in the Pir and Gunin treatment. The picture is sharply different for injunctive norms (Panel B): the Pir treatment

significantly reduces the perceived acceptability of lying across all scenarios, relative to both the control and the Gunin treatment, while the Gunin treatment differs from the control only in the most extreme lying scenarios. This asymmetry is the central result: the moralizing Pir shapes what people believe others find acceptable far more than it shifts personal beliefs.

Figure 4: Effect of exposure to supernatural beliefs on norms of honesty (or dishonesty)



Note: Panel (A) and (B) show social acceptability of truth-telling and lying for actions in the RAG across treatments for personal normative beliefs (A) and injunctive norms (B), respectively. The 5/5 scenario represents the truth-telling condition, while the remaining scenarios (6/4 through 10/0) represent lying conditions. The control group (no condition) is shown with a solid green line, Pir (Islamic agents) with a dashed orange line, and Gunin (traditional agents) with a dotted blue line. Social acceptability is measured on a scale from 1 (very socially unacceptable) to 4 (very socially acceptable). Error bars show 95% CIs. Gray asterisks indicate the difference between each treatment (PIR or GUNIN) and the Control; blue asterisks indicate the difference between PIR and GUNIN. Significance from two-sided Wilcoxon rank-sum (Mann–Whitney) tests: * p<0.05, ** p<0.01, *** p<0.001, n.s. = not significant.

Table 2 reports OLS estimates: for truth-telling, we use the single 5/5 scenario; for lying, we use the panel of scenario-level observations, including scenario fixed effects.[8] The results confirm the pattern shown in Figure 4. The Pir treatment shifts injunctive norms more strongly than personal normative beliefs across both domains — roughly twice as large for truth-telling (0.22 vs. 0.11, Panel B vs. Panel A, column 1) and three times as large for lying (0.26 vs. 0.08, column 5; for a formal test of the difference, see Table A14). Because normative beliefs were elicited after the RAG, participants' own behavior could influence their subsequent norm reports. Column 8 therefore controls for each participant's RAG allocation. The Pir effect on personal normative beliefs becomes small and insignificant, whereas the effect on injunctive

[8] The findings are robust to collapsing the five lying scenarios into a participant-level average measure (Table A13).

norms remains large and significant. This indicates that the shift in injunctive norms is not simply a reflection of treatment-induced differences in participants' own behavior.

Table 2: The effect of exposure to supernatural beliefs on norms of honesty

	Five (acceptability of truth telling)				Six to Ten (acceptability of lying)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Personal normative beliefs								
PIR (Islamic agent)	0.113*	0.115**	0.119*	0.082*	-0.082**	-0.080*	-0.076**	-0.014
	[0.024,0.204]	[0.030,0.205]	[0.028,0.224]	[0.010,0.166]	[-0.142,-0.025]	[-0.141,-0.023]	[-0.134,-0.022]	[-0.067,0.034]
GUNIN (Traditional agent)	0.079	0.081	0.075	0.065	-0.056	-0.044	-0.047	-0.031
	[-0.036,0.188]	[-0.034,0.191]	[-0.046,0.193]	[-0.052,0.178]	[-0.117,0.002]	[-0.103,0.016]	[-0.105,0.013]	[-0.083,0.022]
RAG (chips self-envelope)				-0.619***				1.038***
				[-0.974,-0.270]				[0.842,1.234]
R-squared	0.010	0.111	0.145	0.172	0.566	0.589	0.594	0.625
Observations	720	720	720	720	3600	3600	3600	3600
LinCom: PIR - GUNIN	0.033*	0.034*	0.044*	0.016	-0.026	-0.037*	-0.029	0.017
	[0.003,0.146]	[0.005,0.146]	[0.014,0.151]	[-0.040,0.129]	[-0.109,0.003]	[-0.114,-0.003]	[-0.104,0.001]	[-0.094,0.036]
Panel B: Injunctive norms								
PIR (Islamic agent)	0.221**	0.217**	0.216**	0.171**	-0.258***	-0.266***	-0.262***	-0.184***
	[0.115,0.333]	[0.112,0.334]	[0.107,0.332]	[0.067,0.282]	[-0.352,-0.164]	[-0.370,-0.164]	[-0.365,-0.164]	[-0.271,-0.095]
GUNIN (Traditional agent)	0.146*	0.134*	0.144*	0.133*	-0.095	-0.086	-0.089	-0.069
	[0.033,0.262]	[0.021,0.247]	[0.040,0.257]	[0.029,0.241]	[-0.200,0.010]	[-0.194,0.022]	[-0.191,0.017]	[-0.167,0.027]
RAG (chips self-envelope)				-0.763***				1.303***
				[-1.003, -0.530]				[0.983,1.618]
R-squared	0.024	0.156	0.191	0.217	0.519	0.553	0.557	0.588
Observations	720	720	720	720	3600	3600	3600	3600
LinCom: PIR - GUNIN	0.075**	0.083**	0.072**	0.038	-0.163***	-0.179***	-0.174***	-0.115**
	[0.059,0.245]	[0.065,0.240]	[0.058,0.236]	[-0.020,0.169]	[-0.294,-0.127]	[-0.310,-0.135]	[-0.304,-0.134]	[-0.277,-0.070]
Scenario fixed effect	-	-	-	-	✓	✓	✓	✓
Comprehension	-	✓	✓	✓	-	✓	✓	✓
Experimenter fixed effect	-	✓	✓	✓	-	✓	✓	✓
Village fixed effect	-	✓	✓	✓	-	✓	✓	✓
Sociodemographic controls	-	-	✓	✓	-	-	✓	✓
Religious controls	-	-	✓	✓	-	-	✓	✓
Risk and prosocial controls	-	-	✓	✓	-	-	✓	✓
Zero-sum thinking	-	-	✓	✓	-	-	✓	✓

Notes: The table reports OLS estimates of the effect of exposure to supernatural agents on normative beliefs. Panel A reports results for personal normative beliefs, while Panel B reports results for injunctive norms. The analysis includes six scenarios: the 5/5 scenario represents the truth-telling condition, while the 6/4 through 10/0 scenarios represent varying degrees of lying. Columns (1)–(4) use participant-level responses to the truth-telling scenario (5/5). Columns (5)–(8) use scenario-level observations from the five lying scenarios (6/4–10/0) and include scenario fixed effects. Because each participant evaluates five lying scenarios, columns (5)–(8) contain 3,600 participant-scenario observations. The sociodemographic controls are age, education, access to TV, access to the Internet, respondents' community leadership, family size, family type, household income, and number of earning members of the households. The religious controls are attending the mosque or praying, belief in PIR, belief in GUNIN, contact with PIR, and contact with GUNIN. Risk taking and prosociality are measured using survey items adapted from the global preference survey (GPS). Zero-sum thinking is a summary index constructed from the following five items: (i) a person can only gain power by taking it away from others; (ii) a person can only gain happiness by taking it away from others; (iii) if one person in a village becomes very wealthy, other people in the village will become poorer; (iv) people in the region only make money when others lose money; and (v) businesses in the region only make money when others lose money. Higher values indicate stronger endorsement of a zero-sum worldview. ***, **, * indicate statistical significance at the 0.1% ($p<0.001$), 1% ($p<0.01$), 5% ($p<0.05$) levels, respectively. The 95% CIs (reported in square brackets) and significance levels are based on wild cluster bootstrap at the village level (with 1,000 replications).

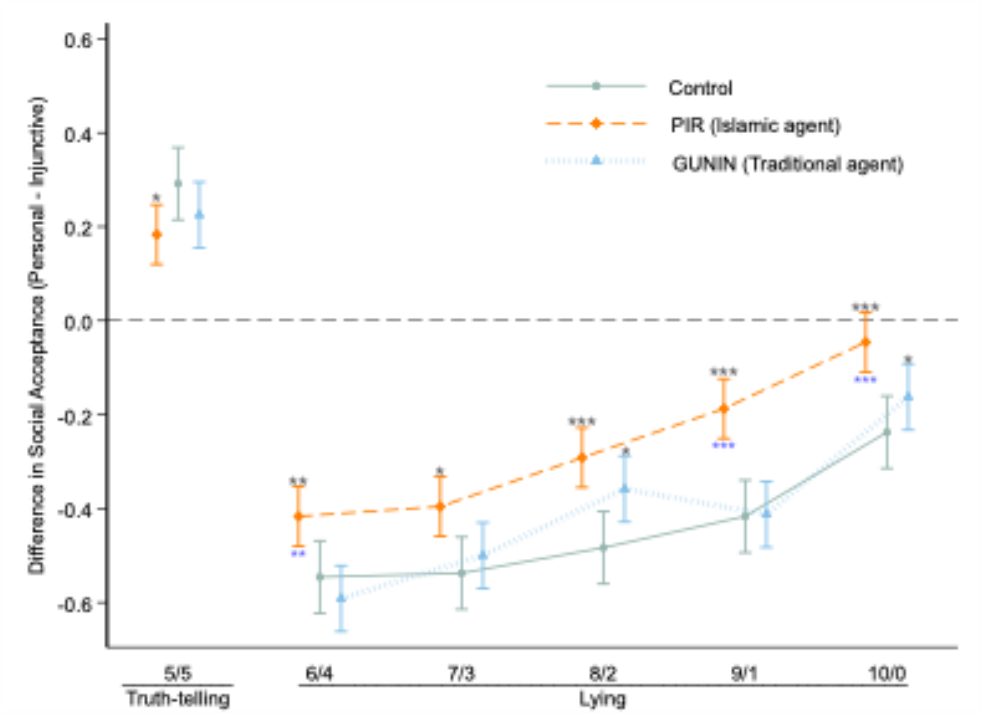
4.3.2. Pluralistic Ignorance

The finding that the Pir shifts injunctive norms more than personal beliefs raises a natural follow-up question: were participants' own normative views misaligned with what they believed others regarded as appropriate, and does the Pir reduce this gap? Such a gap is the hallmark of pluralistic ignorance: individuals may privately hold one view while believing that others in their community hold a different one. In the control group, participants are personally less accepting of dishonesty than they believe others are. Because this pattern is widespread, participants systematically underestimate the extent to which their disapproval of dishonesty is shared by others.

Figure 5 plots the gap between personal normative beliefs and injunctive norms across scenarios and treatment groups. In the control group, the gap is positive for truth-telling — people view honesty as more acceptable for themselves than they think others do — and negative for lying, particularly for small lies: people believe others find minor dishonesty more socially acceptable than they personally do. This pattern is consistent with pluralistic ignorance. Participants therefore systematically underestimate the extent to which others share their own disapproval of dishonest behavior.

The Pir treatment narrows both gaps. For truth-telling, the divergence is significantly smaller under the Pir than in the control ($p < 0.05$). For lying, the pattern is revealing: the negative gap is largest for small lies (6/4, 7/3) and shrinks progressively for larger ones, consistent with small acts of dishonesty being more socially normalized and misperceived. The Pir closes this gap across all lying scenarios, and is significantly different from the control at least at the 5% level in every scenario. Aggregating across the lying scenarios, the control-group gap is 0.44 points; the Pir treatment reduces this gap by 0.18 points, or about 40 percent (Table A15). The Gunin, by contrast, tracks the control group closely throughout. Thus, making the Pir—but not the Gunin—salient narrows the gap between participants' own moral views and what they believe others regard as appropriate. Results hold in OLS with controls (Table A15). Importantly, the treatment itself provides no direct information about other participants' normative views. Moralizing religion therefore reduces pluralistic ignorance by bringing perceived injunctive norms into closer alignment with participants' own moral views.

Figure 5: The impact of supernatural agents on pluralistic ignorance



Note: The figure shows the mean difference between personal and injunctive norms across six scenarios (5/5, 6/4, 7/3, 8/2, 9/1, and 10/0) for the three treatment groups. The 5/5 scenario represents the truth-telling condition, while the remaining scenarios (6/4 through 10/0) represent lying conditions. Each point shows the estimated mean difference in social acceptance between personal and injunctive norms, with 95% confidence intervals. The control group (no condition) is shown with a solid green line, Pir (Islamic agents) with a dashed orange line, and Gunin (traditional agents) with a dotted blue line. Social acceptability is measured on a 4-point scale, ranging from 1 (very socially unacceptable) to 4 (very socially acceptable). Error bars show 95% CIs. Gray asterisks indicate the difference between each treatment (PIR or GUNIN) and the Control; blue asterisks indicate the difference between PIR and GUNIN. Significance from two-sided Wilcoxon rank-sum (Mann–Whitney) tests: * $p<0.05$, ** $p<0.01$, *** $p<0.001$, n.s. = not significant.

4.3.3. Behavioral Coordination within Villages

The preceding results show that the Pir treatment shifts injunctive norms and reduces pluralistic ignorance. We next ask whether the coordinating role of moralizing religion is also visible in actual behavior. If so, allocation decisions should become less dispersed within villages.

We measure behavioral coordination as the absolute deviation of each individual's allocation from the modal allocation in their village, computed across all participants regardless of treatment condition. The reference point therefore captures the prevailing behavior in the village rather than a treatment-specific distribution. Lower values indicate that allocation decisions are more tightly clustered around the village mode; higher values indicate greater behavioral dispersion.

Table 3 reports the treatment effects on behavioral dispersion. The Pir treatment reduces behavioral dispersion across specifications, though the coefficient is less precisely esimated in the fully controlled model (i.e., significant only at the 10 % level). Gunin shows no significant reduction in dispersion. Table 3 suggests that exposure to the Pir draws individuals within villages toward more coordinated responses — consistent with the Pir strengthening a shared understanding of what honest behavior requires.

Table 3: Treatment Effects on Behavioral Coordination: Absolute Deviation from Village Modal Allocation

	Individual deviation from village modal allocation		
	(1)	(2)	(3)
PIR (Islamic agent)	-0.213*	-0.222*	-0.222
	[-0.417,-0.010]	[-0.420,-0.016]	[-0.433,0.005]
GUNIN (Traditional agent)	-0.079	-0.075	-0.075
	[-0.288,0.133]	[-0.270,0.128]	[-0.302,0.143]
R-squared	0.007	0.071	0.120
Observations	720	720	720
Comprehension	-	✓	✓
Experimenter fixed effect	-	✓	✓
Village Fixed effect	-	✓	✓
Sociodemographic controls	-	-	✓
Religious controls	-	-	✓
Risk and prosocial controls	-	-	✓
Zero-sum thinking	-	-	✓

Notes: This table reports OLS estimates of the treatment effects on behavioral coordination in allocation behavior from the Random Allocation Game (RAG). The dependent variable is the absolute deviation of an individual's allocation from the modal (most common) allocation within their village. Lower values indicate tighter clustering of allocation decisions around the prevailing behavior, while higher values indicate greater dispersion. Each column reports OLS estimates of treatment effects relative to the control group. The sociodemographic controls are age, education, access to TV, access to the Internet, respondents' community leadership, family size, family type, household income, and number of earning members of the households. The religious controls are attending the mosque or praying, belief in PIR, belief in GUNIN, contact with PIR, and contact with GUNIN. Risk taking and prosociality are measured using survey items adapted from the global preference survey (GPS). Zero-sum thinking is a summary index constructed from the following five items: (i) a person can only gain power by taking it away from others; (ii) a person can only gain happiness by taking it away from others; (iii) if one person in a village becomes very wealthy, other people in the village will become poorer; (iv) people in the region only make money when others lose money; and (v) businesses in the region only make money when others lose money. Higher values indicate stronger endorsement of a zero-sum worldview. ***, **, * indicate statistical significance at the 0.1% ($p<0.001$), 1% ($p<0.01$), 5% ($p<0.05$) levels, respectively. The 95% CIs (reported in square brackets) and significance levels are based on wild cluster bootstrap at the village level (with 1,000 replications).

6. Cross-Societal Evidence on Behavioral Coordination

A natural question is whether the coordinating role of moralizing religion extends beyond our experimental setting. In particular, the contrast between the Pir and Gunin may reflect idiosyncratic differences between these two agents rather than their association with moralizing religion. To explore this, we turn to the published cross-cultural data of Lang et al. (2019), which cover 15 diverse societies and use a Random Allocation Game closely related to ours.

Before data collection, researchers at each site used ethnographic information to identify two locally relevant supernatural agents: one associated more strongly with moral concern and another comparison agent that was relatively less concerned with interpersonal moral conduct. Participants then rated both agents on the same dimensions of supernatural monitoring and punishment: whether the agent punishes wrongdoing, knows one's thoughts, can see a person at a distance, and whether its judgment affects what happens after death. We average these responses into separate punishment-and-monitoring measures for the moralizing god and the comparison agent. Thus, the identity of the two supernatural agents is fixed within each site, while individuals differ in how strongly they perceive each agent as monitoring and punishing. Lang et al. also conducted a Random Allocation Game in which participants privately allocated resources between themselves and a geographically distant co-religionist whom they had never met. Their original analysis examined whether stronger beliefs in monitoring and punishing gods predict less self- and local favoritism and greater allocations to distant co-religionists. We use the same behavioral data to ask a different question: whether such beliefs are associated with greater coordination in behavior. To parallel our Bangladesh analysis, we calculate the absolute deviation of each participant's allocation from the modal allocation in their site. Lower values indicate that behavior is more tightly clustered around the prevailing allocation in the community.

Table 4 reports the results. All specifications include site fixed effects, so the estimates exploit differences between individuals within the same society and facing the same ethnographically identified supernatural agents. Stronger belief that the moralizing god monitors and punishes is associated with significantly lower behavioral dispersion. By contrast, the corresponding punishment-and-monitoring measure for the comparison agent is not associated with lower

dispersion. When both measures are included simultaneously, the coefficient for the moralizing god remains negative and significant, while the coefficient for the comparison agent is close to zero. The difference between the two coefficients is itself statistically significant. Results are similar when behavioral dispersion is measured relative to the leave-one-out community mean. These results parallel the experimental evidence from Bangladesh. Making the Pir salient both increases honesty and reduces behavioral dispersion, whereas making the Gunin salient does not. In the cross-cultural data, stronger beliefs in the monitoring and punishment of the moralizing god are likewise associated with less dispersed behavior, while equivalent beliefs about the comparison supernatural agent are not. The evidence from Lang et al. is correlational and does not establish a causal effect of moralizing religion. Nevertheless, the similar pattern across a much broader set of societies and religious traditions makes it less likely that our coordination result in Bangladesh reflects idiosyncratic features of the Pir–Gunin comparison.

Table 4: *Effects on Behavioral Coordination using Lang et al. (2019) data*

	Distance from site/community mode					
	MG pun–mon		**LG pun–mon**		**MG + LG pun–mon**	
	(1)	(2)	(3)	(4)	(5)	(6)
MG pun–mon	-0.034	-0.040*			-0.050*	-0.051*
	[-0.070,0.003]	[-0.077,-0.003]			[-0.096,-0.004]	[-0.097,-0.005]
LG pun–mon			0.002	-0.002	0.023	0.020
			[-0.025,0.029]	[-0.030,0.026]	[-0.001,0.047]	[-0.005,0.045]
lincom: MG − LG					-0.073*	-0.072*
					[-0.129,-0.017]	[-0.129,-0.015]
Observations	875	827	597	561	576	543
Site/community fixed effects	✓	✓	✓	✓	✓	✓
Sociodemographic controls	-	✓	-	✓	-	✓

Notes: The table reports OLS estimates of the association between perceived supernatural monitoring and punishment and behavioral coordination. The dependent variable is the absolute deviation of an individual's allocation in the SELF-vs-DISTANT round of the Random Allocation Game (RAG) from the modal allocation in their site/community. Lower values indicate less behavioral dispersion. In this round, participants privately allocated a real coin endowment between themselves (SELF) and a geographically distant co-religionist whom they had never met (DISTANT), using a private die-roll procedure. RAG allocation refers to the share of coins placed in the DISTANT cup. MG pun–mon and LG pun–mon measure perceived monitoring and punishment by, respectively, the ethnographically preidentified moralizing god and comparison supernatural agent. Each measure is the mean of four binary items indicating whether the agent punishes wrongdoing (PUNISH), knows one's thoughts (FEEL), can see a person at a distance (SEE), and whether its judgment affects what happens after death (DIE). Columns (1)–(2) include only MG pun–mon; columns (3)–(4) include only LG pun–mon; and columns (5)–(6) include both simultaneously. The reported linear combination tests whether the coefficients on MG pun–mon and LG pun–mon are equal. Odd-numbered columns include site/community fixed effects only; even-numbered columns additionally control for age, sex, formal education, number of children, and household size. All specifications include site/community fixed effects and robust standard errors. The smaller sample in specifications including LG pun–mon reflects sites and respondents for which the comparison-agent measure is unavailable. 95% confidence intervals are reported in brackets. * p<0.05, ** p<0.01, *** p<0.001.

7. Discussion and Conclusion

Religion has long been theorized as a mechanism for sustaining social order. This paper provides causal evidence on whether a moralizing religious agent shifts honest behavior and shapes the shared moral expectations surrounding that behavior. Using a lab-in-the-field experiment in rural Bangladesh, we show that making a Pir—an Islamic moralizing agent—salient reduces dishonesty by approximately 6 percentage points, while making a Gunin, a traditional supernatural agent associated with healing and harm rather than moral guidance, salient has no significant effect.

Our central result concerns injunctive norms. The Pir shifts beliefs about what others find acceptable—particularly in the lying domain—far more strongly than it shifts personal moral beliefs. This shift also reduces pluralistic ignorance about others' honesty norms. In the control group, participants believe that others are considerably more accepting of dishonesty than others actually are. Making the Pir salient closes about 40 percent of this gap, even though the treatment itself provides no direct information about other participants' normative views. The Gunin produces no comparable effect. Moralizing religion can therefore align what individuals believe about the moral views of others, rather than simply changing their own private moral judgments.

The coordinating role of moralizing religion is also visible in behavior. Participants exposed to the Pir cluster more closely around the modal allocation in their village, whereas the Gunin produces no significant reduction in behavioral dispersion. This finding connects religious salience to a broader literature on how shared social expectations emerge and stabilize within communities (Young, 2015). The Pir therefore not only shifts average behavior toward greater honesty and beliefs about prevailing injunctive norms; it also makes behavior within villages less dispersed.

A natural concern with any single-site experiment is external validity. To assess whether this coordination pattern extends beyond rural Bangladesh, we reanalyze the cross-cultural Random Allocation Game data of Lang et al. (2019), covering 15 diverse societies. Within sites, stronger beliefs that the ethnographically identified moralizing god monitors and punishes are associated with lower behavioral dispersion. The corresponding punishment-and-monitoring beliefs about the comparison supernatural agent are not associated with lower dispersion, and the difference between the two associations is statistically significant. While this observational

evidence cannot establish causality, it closely parallels the experimental finding in Bangladesh and suggests that the relationship between moralizing religion and behavioral coordination is not an artifact of the particular Pir–Gunin comparison, but extends across a broader range of societies and religious traditions.

Our findings speak directly to debates about heterogeneity in the effects of religious and supernatural beliefs. The Pir and Gunin are both socially embedded, widely recognized supernatural agents in the study setting—yet their effects on behavior and injunctive norms diverge sharply. This contrast highlights that supernatural belief is not a single dimension. The Gunin, although familiar and socially meaningful, does not produce comparable shifts in injunctive norms, pluralistic ignorance, or behavior. This adds nuance to a literature that has increasingly recognized the heterogeneous effects of religion and supernatural beliefs on economic behavior (Gershman, 2016; Lang et al., 2019; Le Rossignol, Lowes, & Nunn, 2024; Dunia et al., 2024).

More broadly, our findings connect to theories of how social norms and cooperative institutions are sustained over time. Social norms can be understood as self-reinforcing behavioral equilibria sustained in part by shared expectations about appropriate conduct (Young, 2015). Cultural-evolutionary accounts similarly emphasize how beliefs and norms that support cooperation and coordination can spread and persist, including through cultural group selection (Boyd & Richerson, 1985; Boyd et al., 2003). Moralizing religion provides an important application of this broader logic. Beliefs in monitoring and punishing gods have been argued to help sustain cooperation at larger scales (Norenzayan et al., 2016), an argument supported by experimental and cross-cultural evidence linking such beliefs to prosocial behavior (Purzycki et al., 2016; Lang et al., 2019). Our findings add a coordinating dimension to this account. Moralizing religion aligns injunctive norms around prosocial conduct, reduces pluralistic ignorance, and coordinates behavior around a shared prosocial norm. It can therefore help communities sustain shared prosocial norm equilibria.

Taken together, these results return to the social function of religion emphasized by Durkheim. Religion can bind individuals into a moral community by creating a shared understanding of appropriate behavior. Moralizing religion does not merely promote prosocial behavior; it shapes what people believe others in their community regard as right and wrong. In doing so, it can help sustain a shared moral order.

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Appendix A: Additional Table and Figures

A.1 Experimental Design

Figure A1: Map of the study area

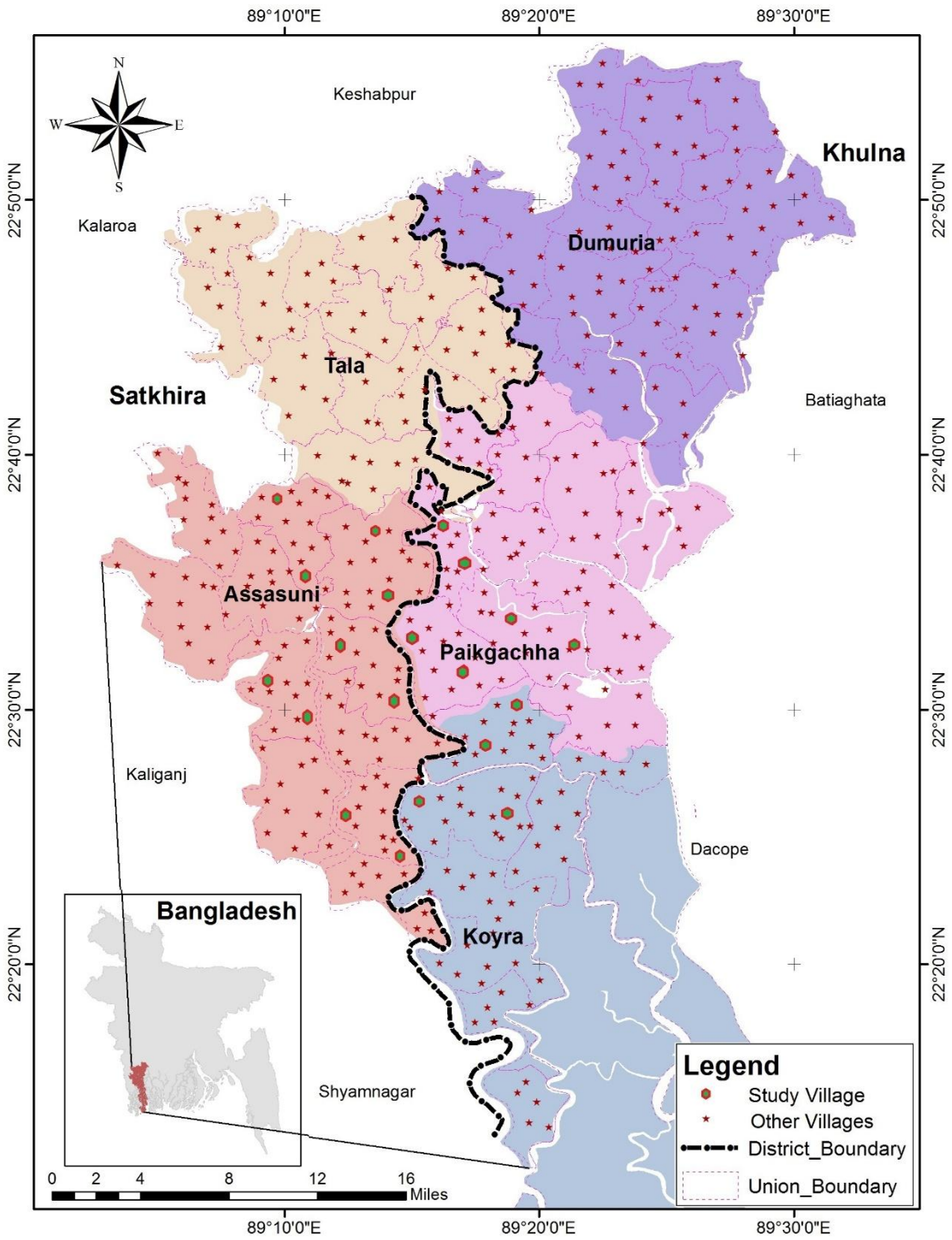


Table A1: **Overview of experimental protocols**

Treatment	Protocol	Risk preference			RAG	Donation
PIR	Protocol 1	IR	NCR	PCR	RAG	Private
	Protocol 2	IR	NCR	PCR	RAG	Public
	Protocol 3	IR	PCR	NCR	RAG	Private
	Protocol 4	IR	PCR	NCR	RAG	Public
GININ	Protocol 5	IR	NCR	PCR	RAG	Private
	Protocol 6	IR	NCR	PCR	RAG	Public
	Protocol 7	IR	PCR	NCR	RAG	Private
	Protocol 8	IR	PCR	NCR	RAG	Public
Control	Protocol 9	IR	NCR	PCR	RAG	Private (Pir)
	Protocol 10	IR	NCR	PCR	RAG	Public (Pir)
	Protocol 11	IR	PCR	NCR	RAG	Private (Gunin)
	Protocol 12	IR	PCR	NCR	RAG	Public (Gunin)

Notes: IR = Individual risk, NCR = Negative correlated risk, PCR = Positive correlated risk, RAG = Random Allocation Game.

A.2 Descriptive Statistics, Beliefs, and Preferences

Table A2: Respondents actual donation decision

	Control (PIR) (T0)	Control (GUNIN) (T0)	PIR (T1)	GUNIN (T2)	Overall	T1-T0	T2-T0	T2-T1
Donation (=1 if donated)	0.74	0.32	0.72	0.40	0.55	-0.025	0.083	-0.317***
	(0.43)	(0.47)	(0.45)	(0.49)	(0.50)	(0.038)	(0.040)	(0.717)

Note: The first two columns report the mean of the actual donation decision by respondents in the control group with standard deviations in brackets. Within the control group, 50 % are in PIR, and 50 % are in the GUNIN. The next two columns report respondents' actual donation decisions in the PIR and GUNIN treatments, respectively, with standard deviations in brackets. The last three columns report the difference across treatments. The treatment differences are derived from linear regression, with the variable of interest as the dependent variable and the treatment indicator as an independent variable, and standard errors clustered at the village level. *** p<0.001, ** p<0.01, * p<0.05.

Table A3: Donation decisions in private and public conditions

	Control (PIR)	Control (GUNIN)	PIR	GUNIN
Public vs Private	0.533	0.434	0.153	0.189

Note: The table shows the Wilcoxon rank-sum (Mann–Whitney) p- values

Table A4: Sociodemographic characteristics

	Control (T0)	PIR (T1)	GUNIN (T2)	Overall	T1-T0	T2-T0	T2-T1
Age of the respondent (years)	37.66	36.59	37.00	37.08	0.217	0.595	0.762
	(11.20)	(10.44)	(10.86)	(10.83)			
Schooling of the respondent (years)	8.20	8.18	7.80	8.06	0.980	0.342	0.385
	(4.41)	(4.91)	(4.52)	(4.61)			

Gender (=1 for female)	0.50	0.49	0.51	0.50	0.600	[0.834	0.561
	(0.50)	(0.50)	(0.50)	(0.50)			
Access to TV (=1 if yes)	0.65	0.62	0.62	0.63	0.408	0.496	0.935
	(0.48)	(0.49)	(0.49)	(0.48)			
Access to Internet (=1 if yes)	0.32	0.33	0.30	0.32	0.658	0.522	0.394
	(0.47)	(0.47)	(0.46)	(0.46)			
Community leader (=1 if yes)	0.28	0.30	0.26	0.28	0.756	0.506	0.422
	(0.45)	(0.46)	(0.44)	(0.45)			
Earning member (number)	1.35	1.37	1.34	1.35	0.597	0.882	0.424
	(0.57)	(0.59)	(0.56)	(0.57)			
Household income (BDT/month)	17015	17188	17279	17161	0.894	0.851	0.928
	(12488)	(11233)	(11387)	(11700)			
Family type (=1 if single family)	0.83	0.82	0.83	0.83	0.680	0.910	0.670
	(0.38)	(0.39)	(0.37)	(0.38)			
Family size (number)	4.05	4.20	4.26	4.17	0.186	0.073	0.642
	(1.26)	(1.47)	(1.32)	(1.35)			

Note: the first four columns report the mean of the corresponding variable with standard deviations in brackets. The last three columns report T-test p-values which are derived from linear regression, with the variable of interest as the dependent variable and the treatment indicator as an independent variable, and standard errors clustered at the village level.

Table A5: Respondents religious characteristics

	Control (T0)	PIR (T1)	GUNIN (T2)	Overall	T1-T0	T2-T0	T2-T1
Attend the mosque or pray (likert scale 0 – 6)	5.99	5.02	4.98	5.00	0.737	0.975	0.659
	(1.29)	(1.34)	(1.33)	(1.32)			
Attend the mosque or pray five times (=1 Yes)	0.45	0.49	0.47	0.47	0.389	0.706	0.706
	(0.50)	(0.50)	(0.50)	(0.50)			
Meaning of religion is to follow religious norms (=1 if yes)	0.59	0.60	0.61	0.60	0.748	0.687	0.929
	(0.49)	(0.49)	(0.49)	(0.49)			
Meaning of religion (=1 for to do good to other people and 0 for others)	0.41	0.40	0.39	0.40	0.748	0.687	0.929
	(0.49)	(0.49)	(0.49)	(0.49)			

Note: The first four columns report the mean of the corresponding variable with standard deviations in brackets. The last three columns report T-test p-values which are derived from linear regression, with the variable of interest as the dependent variable and the treatment indicator as an independent variable, and standard errors clustered at the village level.

Table A6: Respondent belief in Pir/Supernatural power/Witchcraft

	Control (T0)	PIR (T1)	GUNIN (T2)	Overall	T1-T0	T2-T0	T2-T1
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Belief in PIR (mean score 1-4)	1.87	1.97	1.89	1.91	0.268	0.798	0.346
	(0.92)	(0.87)	(0.92)	(0.90)			
PIR can protect from bad things [Strongly believe or Believe (=1) or not=0]	0.30	0.33	0.33	0.32	0.362	0.606	0.643
	(0.46)	(0.47)	(0.47)	(0.47)			

Variables	Control (T0)	PIR (T1)	GUNIN (T2)	Overall	T1-T0	T2-T0	T2-T1
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
PIR can have a positive impact on your life [Strongly believe or Believe (=1) or not=0]	0.35	0.37	0.34	0.35	0.239	0.960	0.176
	(0.48)	(0.48)	(0.47)	(0.48)			
Belief in GUNIN (mean score 1-4)	1.44	1.52	1.55	1.51	0.322	0.070	0.572
	(0.66)	(0.67)	(0.71)	(0.68)			
GUNIN can protect from bad things [Strongly believe or Believe (=1) or not=0]	0.08	0.12	0.13	0.11	0.274	0.116	0.952
	(0.27)	(0.32)	(0.34)	(0.31)			
GUNIN can have a positive impact on your life [Strongly believe or Believe (=1) or not=0]	0.09	0.10	0.13	0.11	0.430	0.053	0.276
	(0.28)	(0.31)	(0.34)	(0.31)			
Belief in witchcraft (mean score 1-4)	1.58	1.62	1.60	1.60	0.569	0.755	0.772
	(0.70)	(0.71)	(0.70)	(0.71)			
You will have bad luck for breaking a mirror [Completely agree or mostly agree (=1) or not =0]	0.12	0.13	0.14	0.13	0.615	0.450	0.801
	(0.33)	(0.34)	(0.35)	(0.34)			
Certain color is unlucky for your success [Completely agree or mostly agree (=1) or not=0]	0.15	0.15	0.13	0.14	0.801	0.716	0.450
	(0.35)	(0.36)	(0.34)	(0.35)			
Certain number is unlucky for your success [Completely agree or mostly agree (=1) or not =0]	0.10	0.15	0.12	0.12	0.235	0.625	0.340
	(0.31)	(0.35)	(0.32)	(0.33)			
Certain day is unlucky for your success [Completely agree or mostly agree (=1) or not =0]	0.15	0.15	0.17	0.16	0.810	0.527	0.732
	(0.35)	(0.36)	(0.38)	(0.36)			
Evil eye can contribute to happening bad things [Completely agree or mostly agree (=1) or not=0]	0.25	0.30	0.30	0.28	0.275	0.254	1.000
	(0.44)	(0.46)	(0.46)	(0.45)			
Belief in Miracles [Strongly believe or Believe (=1) or not=0]	0.26	0.33	0.33	0.30	0.065	0.012	0.606
	(0.44)	(0.47)	(0.47)	(0.46)			
Belief in Evil spirits [Strongly believe or Believe (=1) or not=0]	0.15	0.19	0.20	0.18	0.083	0.137	0.885
	(0.36)	(0.39)	(0.40)	(0.38)			
Certain spiritual people can protect you harm [Strongly believe or Believe (=1) or not=0]	0.20	0.18	0.20	0.19	0.938	0.924	0.833
	(0.40)	(0.39)	(0.40)	(0.40)			

Note: The first four columns report the mean of the corresponding variable with standard deviations in brackets. The last three columns report T-test p-values which are derived from linear regression, with the variable of interest as the dependent variable and the treatment indicator as an independent variable, and standard errors clustered at the village level.

Table A7: Respondent contact with Pir

Variables	Control (T0)	PIR (T1)	GUNIN (T2)	Overall	T1-T0	T2-T0	T2-T1
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Contacted PIR (=1 Yes and =0 for No)	0.41	0.44	0.38	0.41	0.532	0.443	0.164
	(0.49)	(0.50)	(0.49)	(0.49)			
Donated money to the PIR (=1 Yes and =0 for No)	0.47	0.54	0.46	0.49	0.138	0.928	0.232
	(0.50)	(0.50)	(0.50)	(0.50)			
Giving money to the PIR fulfil your desire (=1 Yes and =0 for No)	0.42	0.48	0.40	0.43	0.158	0.392	0.058
	(0.50)	(0.50)	(0.49)	(0.50)			

Variables	Control (T0)	PIR (T1)	GUNIN (T2)	Overall	T1-T0	T2-T0	T2-T1
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
People in your community should contact the PIR (=1 Yes and =0 for No)	0.39	0.44	0.33	0.39	0.198	0.109	0.037
	(0.49)	(0.50)	(0.47)	(0.49)			
Reason to contact with PIR: To cure from an illness or disease (=1 Yes and =0 for No)	0.75	0.74	0.73	0.74	0.774	0.641	0.816
	(0.43)	(0.44)	(0.44)	(0.44)			
Reason to contact with PIR: To place a spell on someone (=1 Yes and =0 for No)	0.03	0.02	0.02	0.02	0.790	0.772	1.000
	(0.16)	(0.14)	(0.14)	(0.15)			
Reason to contact with PIR: To cure a spell placed on them (=1 Yes and =0 for No)	0.13	0.11	0.14	0.13	0.471	0.755	0.340
	(0.34)	(0.32)	(0.35)	(0.34)			
Reason to contact with PIR: To inflict pain on someone (=1 Yes and =0 for No)	0.01	0.00	0.00	0.01	0.330	0.330	1.000
	(0.11)	(0.06)	(0.06)	(0.08)			
Reason to contact with PIR: To become rich (quickly) (=1 Yes and =0 for No)	0.17	0.18	0.16	0.17	0.643	0.777	0.609
	(0.38)	(0.39)	(0.37)	(0.38)			
Reason to contact with PIR: To become rich in a business venture (=1 Yes and =0 for No)	0.37	0.47	0.40	0.41	0.017	0.446	0.102
	(0.48)	(0.50)	(0.49)	(0.49)			
Reason to contact with PIR: For other reason (=1 Yes and =0 for No)	0.22	0.29	0.22	0.24	0.182	0.913	0.092
	(0.41)	(0.45)	(0.42)	(0.43)			
Donating to the PIR has consequences for others (=1 Yes and =0 for No)	0.11	0.25	0.20	0.19	0.001	0.009	0.320
	(0.32)	(0.43)	(0.40)	(0.39)			
Activities by PIR has consequences for others (=1 Yes and =0 for No)	0.13	0.23	0.16	0.17	0.009	0.392	0.057
	(0.34)	(0.42)	(0.37)	(0.38)			

Note: The first four columns report the mean of the corresponding variable with standard deviations in brackets. The last three columns report T-test p-values which are derived from linear regression, with the variable of interest as the dependent variable and the treatment indicator as an independent variable, and standard errors clustered at the village level.

Table A8: Respondent contact with GUNIN

Variables	Control (T0)	PIR (T1)	GUNIN (T2)	Overall	T1-T0	T2-T0	T2-T1
	(1)	(2)	(3)	(4)			
Contacted GUNIN (=1 Yes and =0 for No)	0.22	0.24	0.23	0.23	0.617	0.760	0.858
	(0.41)	(0.43)	(0.42)	(0.42)			
Donated money to the GUNIN (=1 Yes and =0 for No)	0.21	0.23	0.23	0.22	0.612	0.641	0.932
	(0.41)	(0.42)	(0.42)	(0.42)			
Giving money to the GUNIN fulfil your desire (=1 Yes and =0 for No)	0.14	0.16	0.20	0.17	0.546	0.092	0.375
	(0.35)	(0.37)	(0.40)	(0.37)			
People in your community should contact the GUNIN (=1 Yes and =0 for No)	0.12	0.17	0.20	0.17	0.304	0.033	0.385
	(0.33)	(0.37)	(0.40)	(0.37)			
Reason to contact with GUNIN: To cure from an illness or disease (=1 Yes and =0 for No)	0.72	0.70	0.79	0.74	0.597	0.127	0.025
	(0.45)	(0.46)	(0.41)	(0.44)			
Reason to contact with GUNIN: To place a spell on someone (=1 Yes and =0 for No)	0.21	0.18	0.24	0.21	0.492	0.521	0.176
	(0.41)	(0.39)	(0.43)	(0.41)			

Variables	Control (T0)	PIR (T1)	GUNIN (T2)	Overall	T1-T0	T2-T0	T2-T1
	(1)	(2)	(3)	(4)			
Reason to contact with GUNIN: To cure a spell placed on them (=1 Yes and =0 for No)	0.30	0.33	0.41	0.35	0.446	0.035	0.092
	(0.46)	(0.47)	(0.49)	(0.48)			
Reason to contact with GUNIN: To inflict pain on someone (=1 Yes and =0 for No)	0.31	0.28	0.28	0.29	0.446	0.298	0.834
	(0.46)	(0.45)	(0.45)	(0.45)			
Reason to contact with GUNIN: To become rich (quickly) (=1 Yes and =0 for No)	0.11	0.11	0.13	0.12	1.000	0.490	0.471
	(0.31)	(0.31)	(0.34)	(0.32)			
Reason to contact with GUNIN: To become rich in a business venture (=1 Yes and =0 for No)	0.25	0.25	0.35	0.28	0.823	0.063	0.062
	(0.44)	(0.43)	(0.48)	(0.45)			
Reason to contact with GUNIN: For other reason (=1 Yes and =0 for No)	0.17	0.17	0.26	0.20	0.838	0.039	0.042
	(0.37)	(0.38)	(0.44)	(0.40)			
Donating to the GUNIN has consequences for others (=1 Yes and =0 for No)	0.08	0.08	0.09	0.08	0.878	0.767	0.899
	(0.27)	(0.28)	(0.28)	(0.28)			
Activities by GUNIN has consequences for others (=1 Yes and =0 for No)	0.07	0.07	0.07	0.07	0.667	0.867	0.883
	(0.26)	(0.25)	(0.26)	(0.26)			

Note: The first four columns report the mean of the corresponding variable with standard deviations in brackets. The last three columns report T-test p-values which are derived from linear regression, with the variable of interest as the dependent variable and the treatment indicator as an independent variable, and standard errors clustered at the village level.

Table A9: Respondents risk preference, altruism and some other characteristics

	Control (T0)	PIR (T1)	GUNIN (T2)	Overall	T1-T0	T2-T0	T2-T1
Risk taking (0-10)	6.23	5.99	6.18	6.13	0.152	0.822	0.318
	(2.06)	(2.00)	(1.91)	(1.99)			
Donate to a good cause (0-5000)	3090	3011	2845	2982	0.664	0.095	0.307
	(1976)	(1861)	(1873)	(1904)			
Zero-sum (mean score 1-5)	2.47	2.43	2.53	2.48	0.636	0.463	0.219
	(0.91)	(0.90)	(0.90)	(0.90)			
Envy (mean score 1-5)	3.26	3.25	3.31	3.28	0.859	0.515	0.366
	(0.84)	(0.83)	(0.85)	(0.84)			
Claiming government allowances justifiable (scale 1-10)	3.84	3.88	3.87	3.86	0.864	0.941	0.978
	(3.32)	(3.45)	(3.27)	(3.34)			
Want to be a respectful person (scale 0-10)	7.68	7.77	7.80	7.75	0.694	0.528	0.906
	(2.33)	(2.27)	(2.23)	(2.28)			
Most people can be trusted (scale 0-10)	4.22	4.19	3.79	4.07	0.924	0.528	0.204
	(3.98)	(3.85)	(3.78)	(3.87)			

Note: The first four columns report the mean of the corresponding variable with standard deviations in brackets. The last three columns report T-test p-values which are derived from linear regression, with the variable of interest as the dependent variable and the treatment indicator as an independent variable, and standard errors clustered at the village level. *For the variable zero-sum, we ask 5 questions, each answered on 5-point Likert scale, where 1 is for strongly disagree and 5 for strongly agree. Then, we constructed the mean score of zero-sum. These five zero-sum questions are – (i) A person can only gain power by taking it away from others; (ii) A person can only gain happiness by taking it away from others; (iii) If one person in a village gets very wealthy, other people in the village will become poorer; (iv) In (region), people only make money when others lose money; (v) In (region), businesses only make money when others lose money. The same scale applies to the four envy questions, and we created the mean of envy following the same. These five envy questions are – (i) It is so frustrating to see some people succeed so easily; (ii) It somehow doesn't seem fair that some people seem to have all the talents; (iii) Frankly, the success of my neighbors makes me resent them; (iv) I sometimes wish that rich and powerful people lose their advantage.*

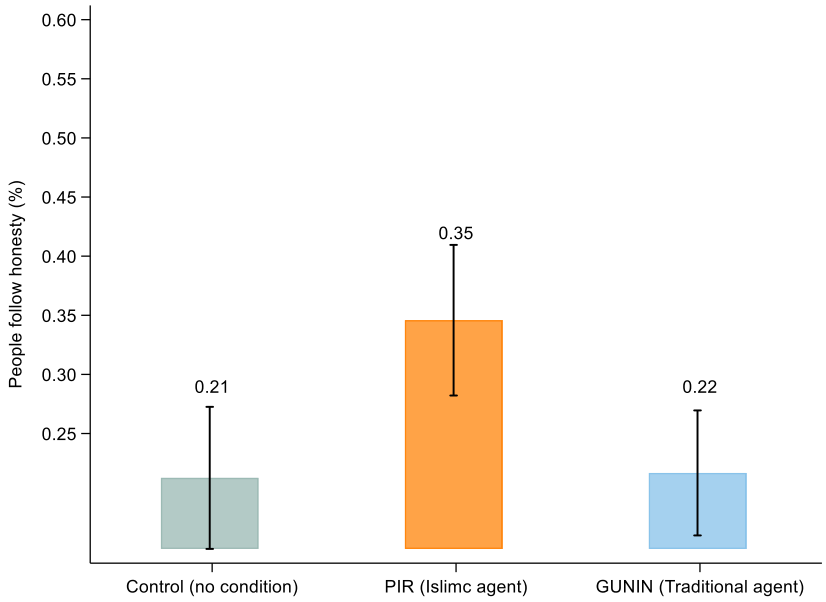
Table A10: Zero-Sum Thinking and Engagement with Pirs and Gunins

	PIR		GUNIN		Difference (PIR – GUNIN)
	Coeff	Mean (No)	Coeff	Mean (No)	Coeff
	(1)	(2)	(3)	(4)	(5)
Contacted (% Yes: 41, 23)	-0.020	2.487	0.174*	2.439	-0.195*
	[-0.155,0.114]		[0.017,0.332]		[-0.384,-0.005]
Donated (% Yes: 49, 22)	0.040	2.459	0.138	2.448	-0.099
	[-0.093,0.172]		[-0.020,0.297]		[-0.295,0.097]
Fulfills desires (% Yes: 43, 17)	0.072	2.448	0.267**	2.434	-0.196
	[-0.062,0.205]		[0.091,0.444]		[-0.405,0.014]
Protects from harm (% Yes: 32, 11)	0.123	2.440	0.349**	2.441	-0.225*
	[-0.019,0.265]		[0.137,0.560]		[-0.416,-0.035]
Influences life (% Yes: 35, 11)	0.117	2.438	0.317**	2.445	-0.200*
	[-0.022,0.255]		[0.105,0.529]		[-0.398,-0.003]

Notes: The table reports the association between zero-sum thinking and engagement with, or positive beliefs about, PIRs and GUNINs. Coefficients are obtained from separate OLS regressions of the Zero-Sum Thinking Index on each engagement indicator and represent the difference in the index between respondents answering "Yes" and "No" to the corresponding question. Columns (2) and (4) report the baseline mean of the Zero-Sum Thinking Index among respondents answering "No." Percentages reported in parentheses indicate the share of respondents answering "Yes" to the corresponding PIR and GUNIN question, respectively. Column (5) reports the difference between the PIR and GUNIN coefficients, estimated using Seemingly Unrelated Estimation (SUEST) tests. 95% confidence intervals are reported in brackets. ***, **, and * denote statistical significance at the 0.1%, 1%, and 5% levels, respectively.

A.3 Honesty and Social Norms

Figure A2: Percentage of participants follow honesty in chips allocation



Note: This figure shows the percentage of people who follow the honesty benchmark in chips allocation. 95% confidence intervals are shown.

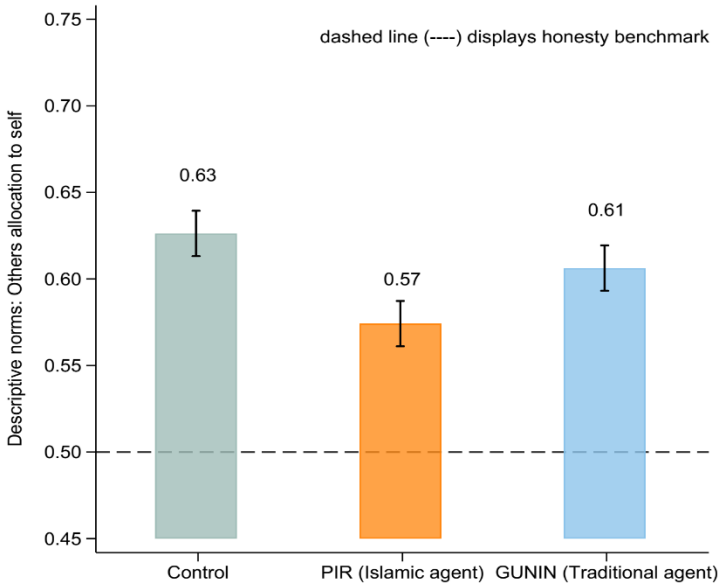
Table A11: Treatment Effects by Comprehension of Experimental Instructions

	Chips allocation to self-envelope (0-1)											
	Full sample			Excluding ≥2 repeats			Excluding ≥1 repeat			No repeats		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
PIR (Islamic agent)	-0.061***	-0.062***	-0.060***	-0.062***	-0.062***	-0.060***	-0.065***	-0.063***	-0.062***	-0.055**	-0.050**	-0.049**
	[-0.088,-0.035]	[-0.088,-0.036]	[-0.089,-0.031]	[-0.086,-0.037]	[-0.087,-0.037]	[-0.087,-0.033]	[-0.087, -0.044]	[-0.085,-0.041]	[-0.090,-0.037]	[-0.090,-0.018]	[-0.086,-0.017]	[-0.083,-0.016]
GUNIN (Traditional agent)	-0.018	-0.015	-0.015	-0.019	-0.017	-0.017	-0.024	-0.021	-0.024	-0.021	-0.019	-0.010
	[-0.041,0.006]	[-0.036,0.007]	[-0.037,0.007]	[-0.042,0.004]	[-0.038,0.004]	[-0.038,0.006]	[-0.050, 0.004]	[-0.047,0.005]	[-0.050,0.004]	[-0.053,0.012]	[-0.051,0.015]	[-0.049,0.031]
R-squared	0.034	0.125	0.209	0.034	0.116	0.200	0.036	0.118	0.232	0.025	0.145	0.311
Observations	720	720	720	697	697	697	602	602	602	310	310	310
LinCom: PIR - GUNIN	-0.043***	-0.048***	-0.044***	-0.042***	-0.045***	-0.043***	-0.041***	-0.042***	-0.038***	-0.034**	-0.031*	-0.039*
	[-0.076,-0.027]	[-0.079,-0.030]	[-0.076,-0.026]	[-0.076,-0.026]	[-0.077, -0.028]	[-0.076,-0.025]	[-0.076, -0.030]	[-0.077,-0.028]	[-0.076,-0.025]	[-0.074,-0.013]	[-0.070,-0.008]	[-0.071,-0.013]
Experimenter fixed effect	-	✓	✓	-	✓	✓	-	✓	✓	-	✓	✓
Village Fixed effect	-	✓	✓	-	✓	✓	-	✓	✓	-	✓	✓
Sociodemographic controls	-	-	✓	-	-	✓	-	-	✓	-	-	✓
Religious controls	-	-	✓	-	-	✓	-	-	✓	-	-	✓
Risk and prosocial controls	-	-	✓	-	-	✓	-	-	✓	-	-	✓
Other controls	-	-	✓	-	-	✓	-	-	✓	-	-	✓

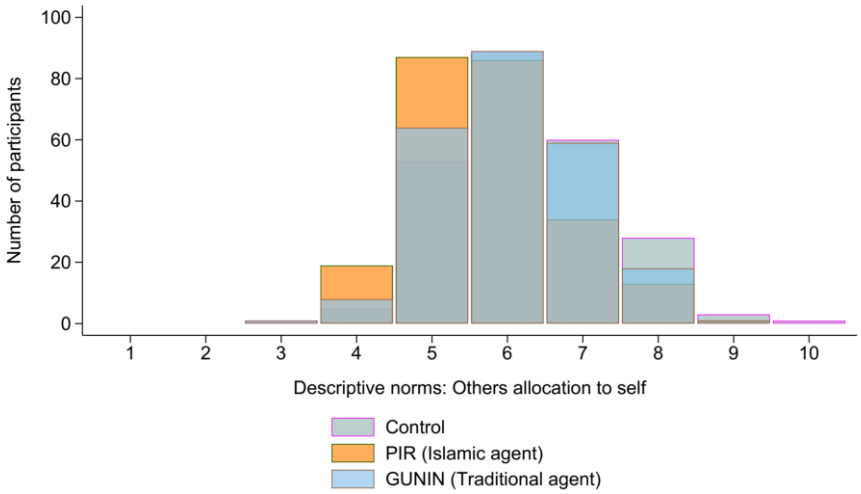
Note: The table reports OLS estimates of the effect of exposure to supernatural agents on honesty behavior. The dependent variable is the share of chips allocated to the self-envelope, ranging from 0 to 1, with higher values indicating more dishonest behavior. Participants were asked a series of comprehension questions before the experiment. Columns (1)–(3) report results for the full sample. Columns (4)–(6) exclude participants who required two or more additional explanations of the experimental task. Columns (7)–(9) exclude participants who required one or more additional explanations. Columns (10)–(12) restrict the sample to participants who correctly understood the task without any additional explanations. The sociodemographic controls are age, education, access to TV, access to the Internet, respondents' community leadership, family size, family type, household income, and number of earning members of the households. The religious controls are attending the mosque or praying; the meaning of religion is to follow religious norms, belief in PIR, belief in GUNIN, belief in witchcraft, contact with PIR, contact with GUNIN, attachment with PIR believer, and attachment with the GUNIN believer. Risk and prosocial controls are risk preference and donating to a good cause. The other controls are zero-sum, envy, ethical values, respect, and trust within the society. Here ***, **, * indicate statistical significance at the 0.1% ($p<0.001$), 1% ($p<0.01$), 5% ($p<0.05$) levels, respectively. The 95% CIs (reported in square brackets) and significance levels are based on wild cluster bootstrap at the village level (with 1,000 replications).

Figure A3: Descriptive social norms

Panel A: Mean of empirical beliefs about others' allocations across treatments



Panel B: Distribution of empirical beliefs about others' allocations across treatments



Note: Panel (A) shows the empirical beliefs (i.e., descriptive social norms) about others' average fraction of chips allocation for control, PIR (Islamic agent) treatment and GUNIN (Traditional agent) treatment, respectively. The dashed line shows the benchmark for honesty (50% of chips allocation to own envelope). 95% confidence intervals are shown. Panel (B) shows the distribution of descriptive social norms about others' chips allocations across treatments groups.

Table A12: The effect of exposure to supernatural beliefs on descriptive norms

VARIABLES	(1)	(2)	(3)
PIR (Islamic agent)	-0.052***	-0.053***	-0.052***
	[-0.075, -0.031]	[-0.076, -0.032]	[-0.073, -0.031]
GUNIN (Traditional agent)	-0.020	-0.019	-0.018
	[-0.044, 0.003]	[-0.042, 0.003]	[-0.041, 0.005]
R-squared	0.041	0.117	0.173
Observations	720	720	720
LinCom: PIR – GUNIN	-0.032**	-0.034**	-0.034**
	[-0.054, -0.011]	[-0.055, -0.012]	[-0.054, -0.013]
Experimenter fixed effect	-	✓	✓
Village Fixed effect	-	✓	✓
Sociodemographic controls	-	-	✓
Religious controls	-	-	✓
Risk and prosocial controls	-	-	✓
Other controls	-	-	✓

Notes: The dependent variable is the descriptive norms (0 – 1) – (Fraction of chips allocation to self envelope by other participants). The sociodemographic controls are age, education, access to TV, access to the Internet, respondents' community leadership, family size, family type, household income, and number of earning members of the households. The religious controls are attending the mosque or praying; the meaning of religion is to follow religious norms, belief in PIR, belief in GUNIN, belief in witchcraft, contact with PIR, contact with GUNIN, attachment with PIR believer, and attachment with the GUNIN believer. Risk and prosocial controls are risk preference and donating to a good cause. The other controls are zero-sum, envy, ethical values, respect, and trust within the society. Here ***, **, * indicate statistical significance at the 0.1% (p<0.001), 1% (p<0.01), 5% (p<0.05) levels, respectively. The 95% CIs (reported in square brackets) and significance levels are based on wild cluster bootstrap at the village level (with 1,000 replications).

Table A13: Treatment effect on norms of honesty: Participant-level measures

	Five (acceptability of truth telling)				Six to Ten (acceptability of lying)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Personal normative beliefs								
PIR (Islamic agent)	0.113*	0.113*	0.112**	0.078*	-0.082**	-0.083**	-0.079**	-0.015
	[0.024,0.204]	[0.029,0.200]	[0.028,0.203]	[0.006,0.159]	[-0.142,-0.025]	[-0.143,-0.028]	[-0.136,-0.023]	[-0.069,0.033]
GUNIN (Traditional agent)	0.079	0.080	0.075	0.066	-0.056	-0.045	-0.048	-0.031
	[-0.036,0.188]	[-0.033,0.186]	[-0.046,0.188]	[-0.048,0.174]	[-0.117,0.002]	[-0.104,0.013]	[-0.108,0.012]	[-0. 082,0.020]
RAG (chips self-envelope)				-0.578***				1.069***
				[-0.923,-0.216]				[0.881,1.243]
R-squared	0.010	0.100	0.138	0.161	0.010	0.113	0.143	0.301
Observations	720	720	720	720	720	720	720	720
LinCom: PIR - GUNIN	0.033*	0.033*	0.037*	0.012	-0.026	-0.038*	-0.031*	0.017
	[0.003,0.146]	[0.004,0.143]	[0.010,0.141]	[-0.049,0.122]	[-0.109,0.003]	[-0.116,-0.005]	[-0.106,-0.002]	[-0.096,0.035]
Panel B: Injunctive norms								
PIR (Islamic agent)	0.221**	0.222**	0.216**	0.173**	-0.258***	-0.263***	-0.259***	-0.185***
	[0.115,0.333]	[0.120,0.333]	[0.118,0.327]	[0.075,0.276]	[-0.352,-0.164]	[-0.356,-0.161]	[-0.347,-0.175]	[-0.265,-0.103]
GUNIN (Traditional agent)	0.146*	0.137*	0.146*	0.135*	-0.095	-0.084	-0.089	-0.070
	[0.033,0.262]	[0.025,0.252]	[0.043,0.261]	[0.037,0.246]	[-0.200,0.010]	[-0.192,0.022]	[-0.196,0.016]	[-0.170,0.026]
RAG (chips self-envelope)				-0.727***				1.242***
				[-1.017, -0.473]				[0.927,1.573]
R-squared	0.024	0.149	0.191	0.215	0.043	0.154	0.191	0.282
Observations	720	720	720	720	720	720	720	720
LinCom: PIR - GUNIN	0.075**	0.085**	0.070**	0.038	-0.163***	-0.179***	-0.170***	-0.115**

	[0.059,0.245]	[0.067,0.243]	[0.059,0.235]	[-0.021,0.168]	[-0.294,-0.127]	[-0.308,-0.134]	[-0.294,-0.139]	[-0.270,-0.072]
Experimenter fixed effect	-	✓	✓	✓	-	✓	✓	✓
Village fixed effect	-	✓	✓	✓	-	✓	✓	✓
Sociodemographic controls	-	-	✓	✓	-	-	✓	✓
Religious controls	-	-	✓	✓	-	-	✓	✓
Risk and prosocial controls	-	-	✓	✓	-	-	✓	✓
Other controls	-	-	✓	✓	-	-	✓	✓

Notes: The table reports OLS estimates of the effect of exposure to supernatural agents on normative beliefs. The dependent variables in panel A is personal normative beliefs and panel B is injunctive norms. The analysis includes six scenarios: the 5/5 scenario represents the truth-telling condition, while the 6/4 through 10/0 scenarios represent varying degrees of lying. Columns 1–4 report results for truth-telling condition (5/5), and Columns 5–8 report results for lying domain (6/4–10/0), measured as the average response across the five lying scenarios (6/4–10/0) for each participant.The sociodemographic controls are age, education, access to TV, access to the Internet, respondents' community leadership, family size, family type, household income, and number of earning members of the households. The religious controls are attending the mosque or praying; the meaning of religion is to follow religious norms, belief in PIR, belief in GUNIN, belief in witchcraft, contact with PIR, contact with GUNIN, attachment with PIR believer, and attachment with the GUNIN believer. Risk and prosocial controls are risk preference and donating to a good cause. The other controls are zero-sum, envy, ethical values, respect, and trust within the society. Here ∗∗∗, ∗∗, ∗ indicate statistical significance at the 0.1% ($p<0.001$), 1% ($p<0.01$), 5% ($p<0.05$) levels, respectively. The 95% CIs (reported in square brackets) and significance levels are based on wild cluster bootstrap at the village level (with 1,000 replications).

Table A14: Changes in social norms: comparison of personal and injunctive norms

	Five (acceptability of truth telling)			Six to Ten (acceptability of lying)		
	(1)	(2)	(3)	(4)	(5)	(6)
Difference between Panel B and A [B – A]						
PIR (Islamic agent) (% change)	96.91%	93.12%	123.07%	-216.89%	-229.32%	-1137.69%
p-value	(0.005)	(0.004)	(0.003)	(0.000)	(0.000)	(0.000)
GUNIN (Traditional agent) (% change)	72.24%	95.15%	104.50%	-88.67%	-86.27%	-122.88%
p-value	(0.134)	(0.034)	(0.039)	(0.335)	(0.307)	(0.336)

Note: The PIR (% change) indicates the relative difference in the PIR coefficient between Panel B (Injunctive Norms) and Panel A (Personal Norms), expressed as a percentage. Similarly, the GUNIN (% change) reflects the relative change in the GUNIN coefficient between the two panels. The p-values represent the statistical significance of these differences.

Table A15: Treatment effects on pluralistic ignorance

	Difference [personal – injuncive] (acceptability of truth telling)		Difference [personal – injuncive] (acceptability of lying)	
	(1)	(2)	(3)	(4)
PIR (Islamic agent)	-0.109*	-0.104*	0.180***	0.181***
	[-0.187, -0.020]	[-0.178, -0.022]	[0.115, 0.246]	[0.116, 0.245]
GUNIN (Traditional agent)	-0.058	-0.071	0.040	0.041
	[-0.142, 0.026]	[-0.142, 0.001]	[-0.045, 0.124]	[-0.043, 0.128]
Control Mean	0.292		-0.444	
	(0.532)		(0.632)	
R-squared	0.061	0.107	0.098	0.112
Observations	720	720	3600	3600
LinCom: PIR - GUNIN	-0.052	-0.033	0.140**	0.139**
	[-0.136, 0.032]	[-0.115, 0.049]	[0.067, 0.214]	[0.068, 0.210]
Experimenter fixed effect	✓	✓	✓	✓
Village Fixed effect	✓	✓	✓	✓
Scenario fixed effect	-	-	✓	✓
Sociodemographic controls	-	✓	-	✓
Religious controls	-	✓	-	✓
Risk and prosocial controls	-	✓	-	✓

Other controls	-	✓	-	✓

Notes: The dependent variable in Columns 1–2 is the difference between personal normative beliefs and injunctive norms for the truth-telling scenario (5/5). The dependent variable in Columns 3–4 is the corresponding difference for the lying domain, constructed from scenarios 6/4, 7/3, 8/2, 9/1, and 10/0. Columns 2 and 4 include the full set of control variables. The sociodemographic controls are age, education, access to TV, access to the Internet, respondents' community leadership, family size, family type, household income, and number of earning members of the households. The religious controls are attending the mosque or praying; the meaning of religion is to follow religious norms, belief in PIR, belief in GUNIN, belief in witchcraft, contact with PIR, contact with GUNIN, attachment with PIR believer, and attachment with the GUNIN believer. Risk and prosocial controls are risk preference and donating to a good cause. The other controls are zero-sum, envy, ethical values, respect, and trust within the society. Here ∗∗∗, ∗∗, ∗ indicate statistical significance at the 0.1% (p<0.001), 1% (p<0.01), 5% (p<0.05) levels, respectively. The 95% CIs (reported in square brackets) and significance levels are based on wild cluster bootstrap at the village level (with 1,000 replications).

Table A16: Treatment effects on norm tightness: Participant-level specification

	Truth-telling (5/5)			Lying domain (6/4 – 10/0)		
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Personal normative beliefs						
PIR (Islamic agent)	-0.113*	-0.113*	-0.112*	-0.030	-0.028	-0.026
	[-0.204,-0.021]	[-0.200,-0.026]	[-0.199,-0.031]	[-0.077,0.019]	[-0.074,0.022]	[-0.074,0.023]
GUNIN (Traditional agent)	-0.079	-0.080	-0.075	-0.023	-0.015	-0.013
	[-0.188,0.036]	[-0.191,0.037]	[-0.197,0.047]	[-0.078,0.031]	[-0.070,0.042]	[-0.066,0.042]
R-squared	0.010	0.100	0.138	0.003	0.099	0.132
Observations	720	720	720	720	720	720
LinCom: PIR - GUNIN	-0.033	-0.033*	-0.037*	-0.008	-0.013	-0.014
	[-0.146,0.001]	[-0.146,-0.004]	[-0.142,-0.008]	[-0.056,0.019]	[-0.058,0.016]	[-0.058,0.016]
Panel B: Injunctive Norms						
PIR (Islamic agent)	-0.171*	-0.172*	-0.173**	-0.065*	-0.064*	-0.058*
	[-0.317,-0.028]	[-0.313,-0.033]	[-0.311,-0.041]	[-0.113,-0.014]	[-0.116,-0.008]	[-0.106,-0.009]
GUNIN (Traditional agent)	-0.138*	-0.125*	-0.130*	-0.080	-0.070	-0.063
	[-0.250,-0.028]	[-0.232,-0.017]	[-0.238,-0.022]	[-0.155,0.008]	[-0.143,0.016]	[-0.138,0.021]
R-squared	0.017	0.100	0.138	0.012	0.109	0.152
Observations	720	720	720	720	720	720
LinCom: PIR - GUNIN	-0.033	-0.047	-0.042	0.015	0.006	0.005
	[-0.208,0.016]	[-0.212,0.002]	[-0.207,0.003]	[-0.069,0.018]	[-0.077,0.016]	[-0.070,0.015]
Experimenter fixed effect	-	✓	✓	-	✓	✓
Village Fixed effect	-	✓	✓	-	✓	✓
Sociodemographic controls	-	-	✓	-	-	✓
Religious controls	-	-	✓	-	-	✓
Risk and prosocial controls	-	-	✓	-	-	✓
Other controls	-	-	✓	-	-	✓

Notes: This table reports OLS estimates of the effect of exposure to supernatual agents on norm tightness. Norm tightness is measured as the absolute deviation of an individual's response from the modal (most common) response within their village. Lower values indicate tighter clustering of responses around a shared norm, while higher values indicate greater dispersion. Panel A reports results for personal normative beliefs, and Panel B reports results for injunctive norms. Columns (1)–(3) present estimates for the truth-telling scenario (5/5), while columns (4)–(6) present estimates for the lying domain (6/4–10/0). The sociodemographic controls are age, education, access to TV, access to the Internet, respondents' community leadership, family size, family type, household income, and number of earning members of the households. The religious controls are attending the mosque or praying; the meaning of religion is to follow religious norms, belief in PIR, belief in GUNIN, belief in witchcraft, contact with PIR, contact with GUNIN, attachment with PIR believer, and attachment with the GUNIN believer. Risk and prosocial controls are risk preference and donating to a good cause. The other controls are zero-sum, envy, ethical values, respect, and trust within the society. Here ∗∗∗, ∗∗, ∗ indicate statistical significance at the 0.1% (p<0.001), 1% (p<0.01), 5% (p<0.05) levels, respectively. The 95% CIs (reported in square brackets) and significance levels are based on wild cluster bootstrap at the village level (with 1,000 replications).

A.4 Generality and External Validity

Table A17: Big God Religions and Civic Norm Coordination: Evidence from the WVS and EVS

	Benefit fraud disapproval (Deviation)		Fare evasion disapproval (Deviation)		Tax cheating disapproval (Deviation)		Civic norm index (Deviation)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	8)
Big God religion	-0.148***	-0.081**	-0.303***	-0.204***	-0.218***	-0.133***	-0.226***	-0.143***
	[-0.200,-0.097]	[-0.131,-0.031]	[-0.376,-0.229]	[-0.270,-0.138]	[-0.272,-0.165]	[-0.182,-0.085]	[-0.280,-0.172]	[-0.192,-0.094]
Constant	2.426***	2.938***	1.448***	2.232***	1.534***	2.150***	1.809***	2.446***
	[2.375,2.478]	[2.867,3.010]	[1.375,1.520]	[2.111,2.354]	[1.480,1.587]	[2.057,2.242]	[1.755,1.862]	[2.363,2.529]
R-squared	0.110	0.118	0.108	0.127	0.093	0.107	0.126	0.148
Observations	618827	610308	597761	589266	618309	611111	574989	568023
Country-wave fixed effect	✓	✓	✓	✓	✓	✓	✓	✓
Demographic control	-	✓	-	✓	-	✓	-	✓

Notes: The table reports OLS estimates of the association between affiliation with a Big God religion and civic norm coordination using pooled data from the Integrated Values Surveys (1981–2022), combining seven waves of the World Values Survey (WVS) and five waves of the European Values Study (EVS). The underlying survey items ask respondents whether the following behaviors are justifiable: claiming government benefits to which one is not entitled, avoiding fares on public transport, and cheating on taxes. Responses are measured on a 1–10 scale, where higher values indicate stricter disapproval of the behavior. For each country-wave, we compute the modal response to each item and construct a deviation measure equal to the absolute difference between an individual's response and the corresponding country-wave modal response. Columns (1)–(2), (3)–(4), and (5)–(6) use the deviation measures for benefit fraud, fare evasion, and tax cheating, respectively. Columns (7)–(8) use Civic Norm Index (Deviation), defined as the average of the three deviation measures. Higher values indicate greater deviation from prevailing civic norms within a respondent's country-wave context, while lower values indicate stronger norm coordination. Big God religions include Christianity, Islam, Judaism, Hinduism, and Buddhism. Demographic controls include age and gender. All specifications include country-wave fixed effects. Standard errors are clustered at the country level. Confidence intervals are reported in brackets. ***, **, and * denote statistical significance at the 0.1%, 1%, and 5% levels, respectively.

A.5 Robustness Analyses

Table A18: Order effects in investment game and treatment effect on honesty

	(1)	(2)	(3)	(4)	(5)
PIR (Islamic agent)	-0.052**	-0.054**	-0.054**	-0.050**	-0.051**
	[-0.089, -0.017]	[-0.092, -0.017]	[-0.092, -0.017]	[-0.091, -0.011]	[-0.091, -0.014]
GUNIN (Traditional agent)	-0.033	-0.028	-0.028	-0.031	-0.032
	[-0.070, 0.006]	[-0.070, 0.009]	[-0.066, 0.010]	[-0.070, 0.009]	[-0.068, 0.004]
Order (=1 if NCR first)	-0.031	-0.029	-0.029	-0.027	-0.030
	[-0.081, 0.017]	[-0.078, 0.017]	[-0.078, 0.017]	[-0.076, 0.024]	[-0.081, 0.019]
PIR * Order	-0.017	-0.016	-0.016	-0.022	-0.016
	[-0.067, 0.031]	[-0.062, 0.032]	[-0.062, 0.032]	[-0.072, 0.027]	[-0.068, 0.035]
GUNIN * Order	0.031	0.027	0.027	0.033	0.035
	[-0.033, 0.091]	[-0.035, 0.084]	[-0.035, 0.084]	[-0.032, 0.097]	[-0.027, 0.096]
R-squared	0.048	0.094	0.137	0.173	0.222
Observations	720	720	720	720	720
LinCom: PIR - GUNIN	-0.034**	-0.034***	-0.034***	-0.037***	-0.035***
	[-0.052, -0.015]	[-0.052, -0.017]	[-0.055, -0.019]	[-0.052, -0.015]	[-0.052, -0.018]
Experimenter fixed effect	-	✓	✓	✓	✓
Village Fixed effect	-	-	✓	✓	✓
Sociodemographic controls	-	-	-	✓	✓
Religious controls	-	-	-	-	✓
Risk and prosocial controls	-	-	-	-	✓
Other controls	-	-	-	-	✓

Note: The dependent variable is the fraction of chips allocated to the self-envelope (0–1) in the Random Allocation Game (RAG). The variable Order equals 1 if the negatively correlated risk (NCR) investment condition was presented before the positively correlated risk (PCR) condition, and 0 otherwise. The sociodemographic controls are age, education, access to TV, access to the Internet, respondents' community leadership, family size, family type, household income, and number of earning members of the households. The religious controls are attending the mosque or praying; the meaning of religion is to follow religious norms, belief in PIR, belief in GUNIN, belief in witchcraft, contact with PIR, contact with GUNIN, attachment with PIR believer, and attachment with the GUNIN believer. Risk and prosocial controls are risk preference and donating to a good cause. The other controls are zero-sum, envy, ethical values, respect, and trust within the society. Here ***, **, * indicate statistical significance at the 0.1% ($p<0.001$), 1% ($p<0.01$), 5% ($p<0.05$) levels, respectively. The 95% CIs (reported in square brackets) and significance levels are based on wild cluster bootstrap at the village level (with 1,000 replications).

Table A19: Effects of the individual risk (IR) condition on honesty

	(1)	(2)	(3)	(4)	(5)
PIR (Islamic agent)	-0.061**	-0.064**	-0.063**	-0.062**	-0.061**
	[-0.090, -0.032]	[-0.094, -0.034]	[-0.092, -0.034]	[-0.094, -0.033]	[-0.094, -0.029]
GUNIN (Traditional agent)	-0.018	-0.015	-0.015	-0.016	-0.016
	[-0.040, 0.007]	[-0.038, 0.007]	[-0.037, 0.006]	[-0.039, 0.007]	[-0.039, 0.007]
IR	0.001	-0.003	-0.002	-0.002	-0.003
	[-0.008, 0.011]	[-0.012, 0.007]	[-0.011, 0.008]	[-0.012, 0.008]	[-0.013, 0.007]
R-squared	0.034	0.083	0.125	0.161	0.210
Observations	720	720	720	720	720
LinCom: PIR - GUNIN	-0.043**	-0.048***	-0.048**	-0.047**	-0.045**
	[-0.071, -0.016]	[-0.075, -0.021]	[-0.075, -0.021]	[-0.075, -0.019]	[-0.072, -0.018]

Experimenter fixed effect	-	✓	✓	✓	✓
Village Fixed effect	-	-	✓	✓	✓
Sociodemographic controls	-	-	-	✓	✓
Religious controls	-	-	-	-	✓
Risk and prosocial controls	-	-	-	-	✓
Other controls	-	-	-	-	✓

Note: The dependent variable is the fraction of chips allocated to the self-envelope (0–1) in the Random Allocation Game (RAG). IR indicates whether the participant was assigned to the individual risk investment condition in the preceding investment game. The sociodemographic controls are age, education, access to TV, access to the Internet, respondents' community leadership, family size, family type, household income, and number of earning members of the households. The religious controls are attending the mosque or praying; the meaning of religion is to follow religious norms, belief in PIR, belief in GUNIN, belief in witchcraft, contact with PIR, contact with GUNIN, attachment with PIR believer, and attachment with the GUNIN believer. Risk and prosocial controls are risk preference and donating to a good cause. The other controls are zero-sum, envy, ethical values, respect, and trust within the society. Here ∗∗∗, ∗∗, ∗ indicate statistical significance at the 0.1% ($p<0.001$), 1% ($p<0.01$), 5% ($p<0.05$) levels, respectively. The 95% CIs (reported in square brackets) and significance levels are based on wild cluster bootstrap at the village level (with 1,000 replications).

Table A20: Effects of the positively correlated risk (PCR) condition on honesty

	(1)	(2)	(3)	(4)	(5)
PIR (Islamic agent)	-0.058***	-0.057***	-0.058***	-0.057***	-0.055***
	[-0.084, -0.032]	[-0.083, -0.031]	[-0.084, -0.032]	[-0.085, -0.030]	[-0.082, -0.029]
GUNIN (Traditional agent)	-0.017	-0.013	-0.013	-0.013	-0.014
	[-0.042, 0.007]	[-0.036, 0.009]	[-0.036, 0.009]	[-0.037, 0.011]	[-0.037, 0.010]
PCR	-0.006	-0.008	-0.007	-0.007*	-0.007*
	[-0.014, 0.003]	[-0.016, 0.001]	[-0.014, 0.000]	[-0.014, 0.000]	[-0.013, -0.000]
R-squared	0.038	0.090	0.130	0.166	0.215
Observations	720	720	720	720	720
LinCom: PIR - GUNIN	-0.041**	-0.045***	-0.045**	-0.044**	-0.042**
	[-0.067, -0.015]	[-0.070, -0.019]	[-0.071, -0.020]	[-0.070, -0.018]	[-0.066, -0.017]
Experimenter fixed effect	-	✓	✓	✓	✓
Village Fixed effect	-	-	✓	✓	✓
Sociodemographic controls	-	-	-	✓	✓
Religious controls	-	-	-	-	✓
Risk and prosocial controls	-	-	-	-	✓
Other controls	-	-	-	-	✓

Note: The dependent variable is the fraction of chips allocated to the self-envelope (0–1) in the Random Allocation Game (RAG). PCR indicates whether the participant was assigned to the positively correlated risk investment condition in the preceding investment game. The sociodemographic controls are age, education, access to TV, access to the Internet, respondents' community leadership, family size, family type, household income, and number of earning members of the households. The religious controls are attending the mosque or praying; the meaning of religion is to follow religious norms, belief in PIR, belief in GUNIN, belief in witchcraft, contact with PIR, contact with GUNIN, attachment with PIR believer, and attachment with the GUNIN believer. Risk and prosocial controls are risk preference and donating to a good cause. The other controls are zero-sum, envy, ethical values, respect, and trust within the society. Here ∗∗∗, ∗∗, ∗ indicate statistical significance at the 0.1% ($p<0.001$), 1% ($p<0.01$), 5% ($p<0.05$) levels, respectively. The 95% CIs (reported in square brackets) and significance levels are based on wild cluster bootstrap at the village level (with 1,000 replications).

Table A21: Effects of the negatively correlated risk (NCR) condition on honesty

	(1)	(2)	(3)	(4)	(5)
PIR (Islamic agent)	-0.062***	-0.062***	-0.063***	-0.062***	-0.061***
	[-0.086, -0.037]	[-0.087, -0.039]	[-0.088, -0.039]	[-0.088, -0.038]	[-0.088, -0.036]
GUNIN (Traditional agent)	-0.018	-0.015	-0.015	-0.015	-0.016
	[-0.041, 0.005]	[-0.035, 0.005]	[-0.036, 0.006]	[-0.036, 0.007]	[-0.036, 0.007]
NCR	0.001	0.001	0.002	0.002	0.002
	[-0.008, 0.011]	[-0.009, 0.011]	[-0.008, 0.012]	[-0.008, 0.012]	[-0.008, 0.012]
R-squared	0.034	0.082	0.125	0.161	0.210
Observations	720	720	720	720	720
LinCom: PIR - GUNIN	-0.044**	-0.048***	-0.048***	-0.047***	-0.045**
	[-0.071, -0.016]	[-0.073, -0.022]	[-0.074, -0.022]	[-0.073, -0.020]	[-0.070, -0.019]
Experimenter fixed effect	-	✓	✓	✓	✓
Village Fixed effect	-	-	✓	✓	✓
Sociodemographic controls	-	-	-	✓	✓
Religious controls	-	-	-	-	✓
Risk and prosocial controls	-	-	-	-	✓
Other controls	-	-	-	-	✓

Note: The dependent variable is the fraction of chips allocated to the self-envelope (0–1) in the Random Allocation Game (RAG). NCR indicates whether the participant was assigned to the negatively correlated risk investment condition in the preceding investment game. The sociodemographic controls are age, education, access to TV, access to the Internet, respondents' community leadership, family size, family type, household income, and number of earning members of the households. The religious controls are attending the mosque or praying; the meaning of religion is to follow religious norms, belief in PIR, belief in GUNIN, belief in witchcraft, contact with PIR, contact with GUNIN, attachment with PIR believer, and attachment with the GUNIN believer. Risk and prosocial controls are risk preference and donating to a good cause. The other controls are zero-sum, envy, ethical values, respect, and trust within the society. Here ***, **, * indicate statistical significance at the 0.1% ($p<0.001$), 1% ($p<0.01$), 5% ($p<0.05$) levels, respectively. The 95% CIs (reported in square brackets) and significance levels are based on wild cluster bootstrap at the village level (with 1,000 replications).

Table A22: Social desirability bias and treatment effects of supernatural agents

	(1)	(2)	(3)	(4)	(5)
Panel A: RAG (0-1)					
PIR (Islamic agent)	-0.090*	-0.084*	-0.083	-0.080	-0.082
	[-0.175, -0.004]	[-0.170, -0.002]	[-0.167, 0.003]	[-0.161, 0.007]	[-0.168, 0.012]
GUNIN (Traditional agent)	-0.041	-0.034	-0.029	-0.009	0.001
	[-0.142, 0.053]	[-0.145, 0.069]	[-0.143, 0.079]	[-0.111, 0.087]	[-0.112, 0.113]
SDB	-0.012**	-0.011**	-0.011*	-0.010*	-0.010*
	[-0.020, -0.003]	[-0.021, -0.002]	[-0.020, -0.002]	[-0.018, -0.002]	[-0.020, -0.002]
PIR * SDB	0.004	0.003	0.003	0.002	0.003
	[-0.007, 0.015]	[-0.008, 0.013]	[-0.008, 0.013]	[-0.008, 0.013]	[-0.008, 0.013]
GUNIN * SDB	0.003	0.003	0.002	0.001	0.002
	[-0.008, 0.017]	[-0.010, 0.017]	[-0.010, 0.017]	[-0.013, 0.013]	[-0.015, 0.012]
R-squared	0.060	0.106	0.146	0.184	0.210
Observations	720	720	720	720	720
Panel B: Personal norms (Truth-telling)					
PIR (Islamic agent)	0.081	0.048	0.039	0.034	0.018
	[-0.176, 0.329]	[-0.199, 0.297]	[-0.220, 0.284]	[-0.202, 0.266]	[-0.175, 0.213]
GUNIN (Traditional agent)	0.051	0.073	0.082	0.078	0.051

	[-0.252, 0.354]	[-0.232, 0.373]	[-0.233, 0.394]	[-0.246, 0.406]	[-0.271, 0.378]
SDB	0.005	0.009	0.010	0.008	0.002
	[-0.019, 0.028]	[-0.015, 0.034]	[-0.016, 0.034]	[-0.020, 0.035]	[-0.026, 0.029]
PIR * SDB	0.004	0.008	0.009	0.010	0.012
	[-0.026, 0.036]	[-0.020, 0.038]	[-0.020, 0.039]	[-0.019, 0.039]	[-0.011, 0.037]
GUNIN * SDB	0.004	0.001	-0.000	-0.001	0.003
	[-0.028, 0.034]	[-0.030, 0.030]	[-0.035, 0.030]	[-0.036, 0.033]	[-0.032, 0.037]
R-squared	0.011	0.085	0.104	0.121	0.139
Observations	720	720	720	720	720
Panel C: Injunctive norms (Truth-telling)					
PIR (Islamic agent)	0.265	0.227	0.256	0.248	0.220
	[-0.088, 0.612]	[-0.120, 0.582]	[-0.090, 0.602]	[-0.095, 0.584]	[-0.101, 0.549]
GUNIN (Traditional agent)	0.360	0.377*	0.363	0.354	0.345
	[-0.027, 0.745]	[0.008, 0.746]	[-0.016, 0.732]	[-0.034, 0.721]	[-0.075, 0.737]
SDB	0.018	0.023	0.023	0.021	0.018
	[-0.013, 0.054]	[-0.008, 0.056]	[-0.009, 0.057]	[-0.011, 0.053]	[-0.017, 0.052]
PIR * SDB	-0.006	-0.001	-0.005	-0.004	-0.000
	[-0.053, 0.040]	[-0.051, 0.044]	[-0.053, 0.041]	[-0.050, 0.041]	[-0.046, 0.044]
GUNIN * SDB	-0.028	-0.031	-0.029	-0.029	-0.026
	[-0.071, 0.017]	[-0.074, 0.011]	[-0.071, 0.011]	[-0.071, 0.013]	[-0.072, 0.021]
R-squared	0.027	0.133	0.153	0.173	0.193
Observations	720	720	720	720	720
Panel D: Personal norms (Lying)					
PIR (Islamic agent)	-0.139	-0.126	-0.114	-0.106	-0.108
	[-0.336, 0.065]	[-0.305, 0.062]	[-0.287, 0.085]	[-0.288, 0.107]	[-0.300, 0.106]
GUNIN (Traditional agent)	-0.064	-0.053	-0.023	-0.014	-0.018
	[-0.277, 0.155]	[-0.261, 0.164]	[-0.230, 0.193]	[-0.215, 0.190]	[-0.226, 0.196]
SDB	-0.010	-0.009	-0.008	-0.007	-0.008
	[-0.025, 0.005]	[-0.023, 0.005]	[-0.023, 0.007]	[-0.021, 0.007]	[-0.022, 0.007]
PIR * SDB	0.007	0.006	0.004	0.003	0.004
	[-0.017, 0.036]	[-0.017, 0.029]	[-0.019, 0.028]	[-0.021, 0.027]	[-0.021, 0.029]
GUNIN * SDB	0.001	0.001	-0.003	-0.004	-0.004
	[-0.024, 0.027]	[-0.020, 0.028]	[-0.026, 0.023]	[-0.025, 0.021]	[-0.026, 0.022]
R-squared	0.013	0.082	0.116	0.130	0.143
Observations	720	720	720	720	720
Panel E: Injunctive norms (Lying)					
PIR (Islamic agent)	-0.219*	-0.195*	-0.179*	-0.175*	-0.194*
	[-0.384, -0.054]	[-0.338, -0.038]	[-0.301, -0.042]	[-0.311, -0.013]	[-0.333, -0.021]
GUNIN (Traditional agent)	-0.222	-0.210	-0.175	-0.168	-0.162
	[-0.503, 0.055]	[-0.478, 0.047]	[-0.440, 0.069]	[-0.422, 0.074]	[-0.435, 0.107]
SDB	-0.030**	-0.030**	-0.027**	-0.028***	-0.029***
	[-0.048, -0.014]	[-0.045, -0.016]	[-0.042, -0.015]	[-0.041, -0.016]	[-0.041, -0.018]
PIR * SDB	0.006	0.002	-0.000	-0.001	0.002
	[-0.013, 0.025]	[-0.014, 0.018]	[-0.015, 0.015]	[-0.018, 0.015]	[-0.015 0.018]
GUNIN * SDB	0.022	0.021	0.017	0.015	0.014
	[-0.004, 0.052]	[-0.004, 0.052]	[-0.009, 0.048]	[-0.012, 0.047]	[-0.014, 0.046]
R-squared	0.053	0.109	0.138	0.148	0.163
Observations	720	720	720	720	720
Experimenter fixed effect	-	✓	✓	✓	✓

Village Fixed effect	-	-	✓	✓	✓
Sociodemographic controls	-	-	-	✓	✓
Religious controls	-	-	-	-	✓
Risk and prosocial controls	-	-	-	-	✓
Other controls	-	-	-	-	✓

Note: Panel A reports results for allocation behavior in the Random Allocation Game (RAG). Panels B–E report results for personal normative beliefs and injunctive norms in the truth-telling and lying domains. The social desirability bias (SDB) measure is based on participants' responses to the statement: "I want to be a respectful person in my village," rated on a scale from 1 ("not at all") to 10 ("a lot"), following Bandiera et al. (2020). The sociodemographic controls are age, education, access to TV, access to the Internet, respondents' community leadership, family size, family type, household income, and number of earning members of the households. The religious controls are attending the mosque or praying; the meaning of religion is to follow religious norms, belief in PIR, belief in GUNIN, belief in witchcraft, contact with PIR, contact with GUNIN, attachment with PIR believer, and attachment with the GUNIN believer. Risk and prosocial controls are risk preference and donating to a good cause. The other controls are zero-sum, envy, ethical values, respect, and trust within the society. Here ∗∗∗, ∗∗, ∗ indicate statistical significance at the 0.1% ($p<0.001$), 1% ($p<0.01$), 5% ($p<0.05$) levels, respectively. The 95% CIs (reported in square brackets) and significance levels are based on wild cluster bootstrap at the village level (with 1,000 replications