Culture at a Crossroads: Traditional Beliefs in Contemporary Africa*

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Abstract

Sub-Saharan Africa is experiencing large-scale cultural change. Christianity has spread widely and is now nearly universally adopted by non-Muslim populations. Despite this, traditions, which include spiritual beliefs, remain deeply rooted and continue to ground social, economic, and political life. Descriptive accounts – especially by African scholars – suggest that Christianity's universal doctrine, which posits a single god and a single path to salvation, has had adverse consequences for traditional beliefs. We examine this relationship using data from the DRC and across Africa. Text analyses of sermons reveal that traditional customs and beliefs are frequently mentioned and almost always portrayed in a negative light. Behavioral experiments in the DRC show that individuals known to hold traditional beliefs are treated less prosocially and that antisocial norms and negative stereotypes support this behavior. Such effects are not found for any other characteristic, they appear among all subgroups of our sample, and they intensify with economic development. Patterns in cross-Africa survey data are consistent with the Congolese experimental findings. Finally, consistent with Christianity being a source of these effects, we find that in both the experiments and surveys, the findings are stronger in areas with more exposure to colonial missionary activity.

Keywords: Africa; religion; tradition; cooperation; altruism; norms.

JEL Classification: O12; Z12; Z13.

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1. Introduction

Contemporary Africa is in a state of cultural transition. The modern African lives in multiple worlds – the traditional and the modern – each with its own set of worldviews and values. The Senegalese economist (Sarr, 2019, p. 15) describes post-colonial Africa as comprising "tradition and modernity [which] appear both as internal realities and as a bundle of questions posed to the African's being in the world."

At the center of this interplay between the modern and traditional is religion and spirituality. This is true for two reasons. First, it is in this domain that the continent has witnessed the most rapid and significant cultural change. Due to the rapid adoption of Christianity (and before this, Islam), today, over 97% of the continent's population reports believing in one of the two religions. At the same time, belief in African traditional religions has remained stable at levels well above 50% for most countries in sub-Saharan Africa. Thus, contemporary Africa is characterized by cultural negotiation and change. Second, spirituality and religion are central to African life. As the Kenyan philosopher John Mbiti (1969, p. 2) explains, "Wherever the African is, there is his religion: he carries it to the fields where he is sowing seeds or harvesting a new crop; he takes it with him to the beer party or to attend a funeral ceremony... African peoples do not know how to exist without religion... Religion is their whole system of being."

In this paper, we consider how African traditional beliefs have been shaped by Christianity. Because people typically have dual belief systems, where both traditional and modern Christian or Muslim beliefs are held, the process of cultural change is a complex process of continual negotiation between the two belief systems. An aspect of this interplay that has received attention outside of economics is how Christianity, a universal religion, has altered indigenous perceptions of traditional customs and beliefs (Mbiti, 1969). Early influence along these lines was due to missionaries who, due to their own belief system, perceived traditional beliefs in a negative light, describing religious leaders as "doctors of satanity," "demon doctors," or "witchdoctors," and calling creator deities "the grand devil" (P'Bitek, 2011, Chitakure, 2017).

Concerns remain that the contemporary religious landscape has remnants of these earlier dynamics. Traditional spiritual practices are still referred to as "witchcraft" or "sorcery." Descriptive accounts suggest that many churches in Africa, particularly newer Evangelical denominations, incorporate traditional religious beliefs but recast them as demonic. Belief in ancestral spirits, along with the guidance and support they offer, is commonly framed as originating from the devil (Chitakure, 2017, Okeke, Ibenwa and Okeke, 2017). As a consequence, for contemporary Africans, there is a constant tension and negotiation between the modern and the traditional. As Felwine Sarr (2019, pp. 20, 53) explains, African society is "constantly renegotiating and reevaluating its values" and, as a consequence, "African modernity... bears contradictory tendencies that are always in negotiation."

Our study aims to better understand these dynamics by examining the consequences of adherence to traditional beliefs for contemporary Africans and the extent to which these are related to

the spread of Christianity on the continent. We begin by examining the indigenous perceptions of traditional spiritual beliefs prior to European contact. Gleaning evidence from early ethnographic accounts and orally transmitted folktales, we find that traditional religious practices were not perceived negatively. They were regarded in neutral or positive terms. We then compare this to contemporary perspectives, focusing on how Christian churches in Africa frame traditional beliefs. We conducted a census of all churches in a large city in the northern Democratic Republic of the Congo and recorded sermons from nearly every church. Using text analysis, we identify the topics discussed and the tone used. Traditional beliefs emerge as the fifth most frequently discussed topic, surpassed only by death, love, family, and prosperity. They appear more often than themes such as poverty, the devil, or peace. The sentiment surrounding these discussions is overwhelmingly negative, a pattern that is found across all denominations. It is not limited to Evangelical churches. We also undertake the same analysis but using a cross-African corpus of sermons from six of the main English-speaking cities across the continent collected by McClendon and Riedl (2019). The same pattern holds: traditional beliefs are commonly discussed and consistently framed in negative terms.

Motivated by the messaging that we find in our sermon analysis, we then ask how individuals who hold traditional beliefs are perceived and treated by others. To do this, we use lab-in-the-field experiments implemented in the same city in northern DRC and also 50 randomly chosen rural villages in the region. The sample comprises 1,120 individuals in total: 520 individuals from the city and 600 from the villages. In each round of each game, we randomly match participants while providing information about the other player that would typically be known in day-to-day real-world interactions; namely, their age group, gender, education level, whether they are a coethnic, strength of Christian beliefs, strength of traditional religious beliefs, and whether they grew up in a rural or urban location. In our setting, the term used for traditional religious beliefs is '*bokoko*,' which is a Lingala word that more means one's 'ancestors.' In practice, belief in one's ancestors is bundled with a broader set of traditional beliefs, including what Westerners call 'witchcraft' and 'sorcery.'

The experiments that we implement – the Dictator Game (DG), Choose Your Dictator Game (CYD), and Joy of Destruction Game (JOD) – are meant to mimic common social and business interactions in daily life. The DG, where player 1 chooses how much of an endowment to allocate to player 2, is generally considered a measure of altruism. In the CYD game, player 1 chooses a person to be the dictator in a dictator game, where the player receives the allocation chosen by the dictator. The decision taken reflects how altruistic player 1 perceives the other player to be and player 1's altruism towards that player. In the JOD game, two players are each given an endowment. Player 1 can then choose to either: do nothing, reduce the other player's payoff at a cost to themselves, or increase the other player's payoff at a cost. Behavior in the JOD game reveals the extent to which individuals are willing to help or harm others.

In each game, the participant completes two rounds in private, each round with a different randomly-chosen other player. Because participants are randomly matched with players who have different strengths of traditional religious beliefs (*bokoko*), we can test whether the participants behave in a more or less prosocial manner when paired with someone who holds stronger

traditional religious beliefs.

We find that participants choose actions that are less prosocial when paired with a player 2 who has a stronger belief in traditional religion. Those with stronger traditional beliefs are given less in the DG, are less likely to be chosen as a dictator in the CYD game, and are more likely to have their payoff reduced and less likely to have their payoff increased in the JOD game. The magnitude of the estimated effects is economically important. A player 2 who believes in traditional religion is predicted to earn 12.4% less across all games in the urban sample and 11.1% less in the rural sample relative to a player 2 who does not hold such beliefs.

We next examine the norms that underlie this behavior. Using the method developed by Krupka and Weber (2013), we measure how socially acceptable all possible actions in the games are when paired with a player with certain characteristics. For each action, participants are asked to consider how socially acceptable the action is and are asked to choose what they think will be the most common response chosen by all other participants. They receive a payment if their answers are correct for all decisions in a game. Our social norm findings align with those from the behavioral games. In the DG, if player 2 has stronger traditional beliefs, then it is perceived as more socially acceptable to give smaller allocations and less socially acceptable to give larger allocations. In the CYD, it is viewed as more socially acceptable not to choose the individual with strong traditional beliefs and less socially acceptable to choose them. In the JOD game, if the other player has stronger traditional religious beliefs, then decreasing their payoff is viewed as more socially acceptable, increasing it is less socially acceptable, and there is no effect on doing nothing.

Having examined actual behavior and the perceptions of whether this behavior is socially acceptable, we then turn to people's own views. We study how perceptions of others depend on whether they hold traditional religious beliefs using the "conjunction fallacy." The measurement strategy exploits the fact that, in violation of the laws of probability, individuals often believe that the probability of two events occurring together (in conjunction) is higher than the probability of either single event. This occurs when the conjunction appears to be more representative of the person being described than the single event. We find that individuals who hold traditional beliefs tend to be associated with negative traits like dishonesty, jealousy, selfishness, vindictiveness, and being socially excluded, and less likely to be associated with positive traits like honesty, benevolence, generosity, being even-tempered, and being socially included. The effects are significant because they provide evidence of underlying beliefs that support the norms and behavior findings. Thus, the norms and observed behavior are not likely due to pluralistic ignorance or preference falsification.

The third component of our analysis explores the robustness and generality of our findings regarding antisocial behavior targeted towards traditional believers. We first consider this within our experimental context. First, we ask whether there are any subsamples for which we do not observe the negative effects towards those who hold traditional beliefs. We find that the effects are remarkably general. For no subgroup – based on age, income, gender, education, or religious beliefs of either player 1 or player 2 – do we find an effect that is not negative and statistically significant. Strikingly, the antisocial behavior targeted at traditional believers is

even found for respondents who themselves hold strong traditional beliefs. Believers also treat those holding traditional beliefs worse, hold less prosocial norms, and have negative views about them. We also check whether the patterns in the data are consistent with economic development attenuating these adverse effects. We find no evidence for this. Our estimates suggest the opposite – that economic development may exacerbate these effects. We find that the antisocial effects we document are significantly stronger for respondents who are wealthier and more educated.

We then explore whether there is evidence for the relevance of our experimental findings for the rest of sub-Saharan Africa. Using Gallup survey data from 50,000 people from 34 sub-Saharan African countries, we estimate the relationship between a person's belief in witchcraft and measures of their financial well-being. Consistent with the experimental findings, we find that individuals who believe in witchcraft are worse off economically. While not causal, these are the patterns one expects to find in observational data if our experimental findings were valid externally. In line with the income and education heterogeneity found in the experimental estimates, we also find that the negative relationship between witchcraft and economic well-being is stronger in countries that have higher incomes or higher levels of education.

The fourth and final part of our analysis examines whether the documented antisocial effects are related to the introduction of Christianity. We check for this using our rural sample of 50 villages from the DRC by testing for heterogeneous effects depending on the intensity of any exposure to Christianity, measured by proximity to mission stations or missionary schools, during the colonial period. We find that antisocial behavior towards believers of traditional religion in our experiments is stronger in villages that were more exposed to historical missionary activity. Although missionary activity was extensive in the region, there were a small number of villages that were more than 30 kilometers away from a mission station or school. Within these villages, there is no evidence of antisocial behavior directed towards those who hold traditional religious beliefs.

To further explore the potential role of Christianity, we extend the analysis to variation across Africa. As a first step, we investigate whether individual-level survey data from Gallup exhibit patterns consistent with our DRC results. We find that in regions with greater exposure to colonial missionary activity, individuals are more likely to view traditional religion practitioners more negatively, perceiving them as doing "bad things," and viewing them as not being "important members of the community." This is true even after conditioning on whether the respondent believes in traditional religion. Echoing our experimental findings, we also find that the effect of historical exposure to Christianity on perceptions of those who practice traditional religion is present (and similarly strong) among those who believe in traditional religion.

We complement the analysis of perceptions of practitioners with a second analysis that considers the perceptions of individuals holding traditional beliefs. We use the Afrobarometer, which collects data on survey respondents' primary religions. We also know the ethnicity of the enumerator conducting the survey. At the end of the survey, the enumerator is asked to provide an assessment of their perception of whether the respondent was friendly, cooperative, at ease, and honest. Consistent with the experimental findings, we see that individuals who hold traditional religious beliefs are perceived more negatively by the enumerators and that this

perception is influenced by missionary exposure. Enumerators from ethnic groups with more colonial missionary activity tend to have differentially worse perceptions of respondents who report holding traditional religious beliefs (relative to those who do not).

Our findings contribute to a deeper understanding of the drivers of cultural change (Bau, 2021, Giuliano and Nunn, 2021, Nunn, 2022). They highlight the influence that a universal belief system, Christianity, has had on smaller-scale traditional religious beliefs. While descriptive accounts, particularly by African scholars, have described the effects of Christianity on perceptions of traditional religions and interpersonal dynamics (e.g., Mbiti, 1969, Wiredu, 1998, P'Bitek, 2011, Okeke et al., 2017), our study provides empirical confirmation of this. Our text analysis of sermons contributes to prior work looking at the effects of church sermons on political participation across Africa (McClendon and Riedl, 2019, 2021) or non-text-based studies that find that religious church leaders affect the cultural values of their congregants (Wang, 2021, Bauer, Chytilová and Ochieng, 2024).

Our findings also add to existing studies documenting the correlates of traditional belief systems. Studies have documented cross-sectional relationships between the prevalence of witchcraft beliefs and trust (Gershman, 2016); disrupted social relations, lower happiness, more anxiety and pessimism, less innovation and entrepreneurship, and lower incomes (Gershman, 2022); and lower rates of upward educational mobility (Alesina, Hohmann, Michalopoulos and Papaioannou, 2023). Our findings suggest a specific channel in sub-Saharan Africa: Traditional beliefs elicit antisocial behavior from others, resulting in negative consequences for those who hold them. Our findings also add to studies in economics examining the (often positive) consequences of traditional beliefs across the globe (Leeson, 2014, Alonso, Houssa and Verpoorten, 2016, Bennett, Naqvi and Schmidt, 2018, Stoop, Verpoorten and Deconinck, 2019, Nunn and Sanchez de la Sierra, 2017, Deopa, 2022, Butinda, Lameke, Nunn, Posch and Sanchez de la Sierra, 2023), as well as a large ethnographic literature outside of economics (Krige, 1947, Gluckman, 1955, Evans-Pritchard, 1976, Geschiere, 1997, Douglas, 2004).

Finally, our findings, particularly regarding the role played by Christianity, add to an extensive literature examining the consequences of monotheistic Big God religions (Barro and McCleary, 2003, Norenzayan, 2013, Platteau, 2017, Rubin, 2017), particularly studies examining their consequences in developing country contexts (Campante and Yanagizawa-Drott, 2015, Bazzi, Koehler-Derrick and Marx, 2020, Auriol, Lassébie, Panin, Raiber and Seabright, 2020, Bryan, Choi and Karlan, 2021, Shofia, 2024), or their effects on social relationships (Glaeser, Ponzetto and Shapiro, 2005, Chaney, 2013, Belloc, Drago and Galbiati, 2016, Auriol, Delissaint, Fourati, Miquel-Florensa and Seabright, 2021, Wang, 2021, Caicedo, Dohmen and Pondorfer, 2023). Whereas most of this literature examines how monotheistic religions affect the people who practice them, our results add to existing research examining the relationship between universal god religions and lower tolerance of other religious beliefs (Skali, 2017, Barber, Jetter and Krieger, 2024, Colussi, Rohner, Tesei and Caicedo, 2024, Sola, 2024).

The following section provides the reader with an overview of African traditional religions in general and in the northern DRC in particular. We then report findings from an analysis of perceptions of traditional beliefs as reflected in folklore and early ethnographies, and from a

contemporary church census and a text analysis of sermons (Section 3). Next, we examine our experiments aimed at determining whether traditional believers are treated less prosocially by others (Section 4) and whether social norms, negative perceptions, and stereotypes support this behavior (Section 5). We then turn to the generality and external validity of our findings (Section 6) and whether there is evidence that the origins of the antisocial effects we document are related to Christianity (Section 7). We end by offering concluding thoughts (Section 8).

2. Traditional Religious Beliefs in the DRC, Across Africa, and Globally

African traditional spiritual beliefs share many of the same features as other religions worldwide. They have a divine creator, divine power, an afterlife, spirits, and the use of spiritual power, religious symbols, and ceremonies. However, a noteworthy difference is that traditional religions typically believe that each group has its own creator. Since there are different groups, from different lineages, it is logical to presume that each has its own (divine) creator. This is in contrast to Christianity or Islam, where it is believed that there is one God for all. An important consequence of this is that while traditional religions tend to be accepting of the validity of other religions, Christianity and Islam tend not to be. Thus, if a group is connected to another God from whom they receive spiritual support, then the only explanation is that the group is worshipping and obtaining power from the devil. This is reflected by the fact that African traditional religions (and many other traditional religions around the world) are described using terms like 'witchcraft,' 'black magic,' and 'sorcery' (Paton, 2009, Pietz, 2022).

Today, traditional beliefs remain widespread. To provide a more concrete sense of this, we compile statistics on the share of people globally who believe in 'witchcraft.' Our sample includes all countries for which we could find data, which comprises approximately 88.4% of the world's population. Within this sample, 43% of respondents hold 'witchcraft' beliefs.[1] If we focus on non-OECD countries, then 48% of the respondents believe in witchcraft. The prevalence of beliefs by country is illustrated in Figure 1, which reports the share of witchcraft believers by country for the full sample. The width of each population represents the country's share of the population.

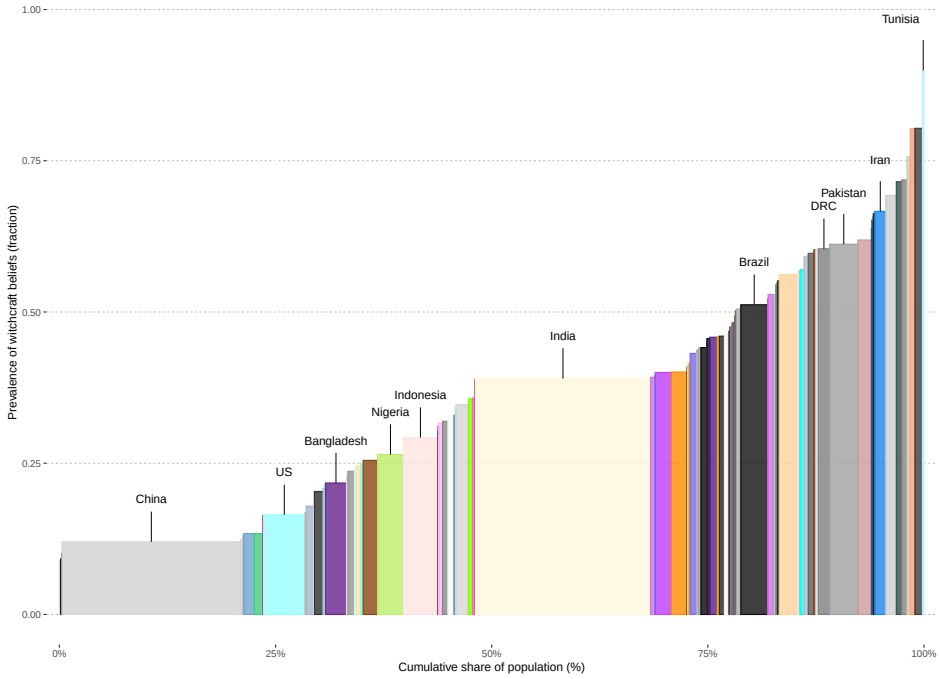
Traditional religions also persist within the African continent. This is seen in Figure 2, which shows the average share of surveyed individuals who report believing in "witchcraft." The data are from individual-level surveys collected from 2008–2012 by Gallup and PEW. We aggregate the data to create averages at the subnational region level. It is clear that beliefs in witchcraft continue to be widespread in many parts of the continent. In many countries, the proportion of individuals who believe in witchcraft is above 50%, and several regions have shares that are in excess of 90%. According to these data, 70–80% of respondents in the region where our study takes place believe in witchcraft, which is broadly consistent with our survey data.[2]

The persistence of these beliefs is surprising to many. This is because traditional beliefs often remain 'invisible' to Western scholars. Standard surveys, like the WVS, DHS, Censuses, the Barometers, etc., unlike those that we use here, only capture a person's 'primary' religion,

[1] If we make the strong assumption that in countries for which data are unavailable, no individuals believe in witchcraft, then 34.5% of the world's population is calculated to believe in witchcraft.

[2] An interesting exception is Ethiopia, which has a particularly long history of Christianity.

Figure 1: Share of Traditional Believers Across Countries



Notes: The figure presents the share of individuals who report believing in 'witchcraft' across countries for which data are available. Data on the share of witchcraft believers is compiled from various sources. Most of the data comes from six surveys conducted by the Pew Research Center between 2008 and 2017. The survey question is the following: "Do you believe in the evil eye, or that certain people can cast curses or spells that cause bad things to happen to someone?" We have added data for China (Yang, Yuan, Sun, Yengfang, Stark, Johnson, Liu and Heu-Yuan, 2007), India (Salazar, 2021), Australia (Pepper and Powell, 2018), Canada (Ipsos, 2021), Japan (Kavanagh and Jong, 2020), and Vietnam (Long and Van, 2020).

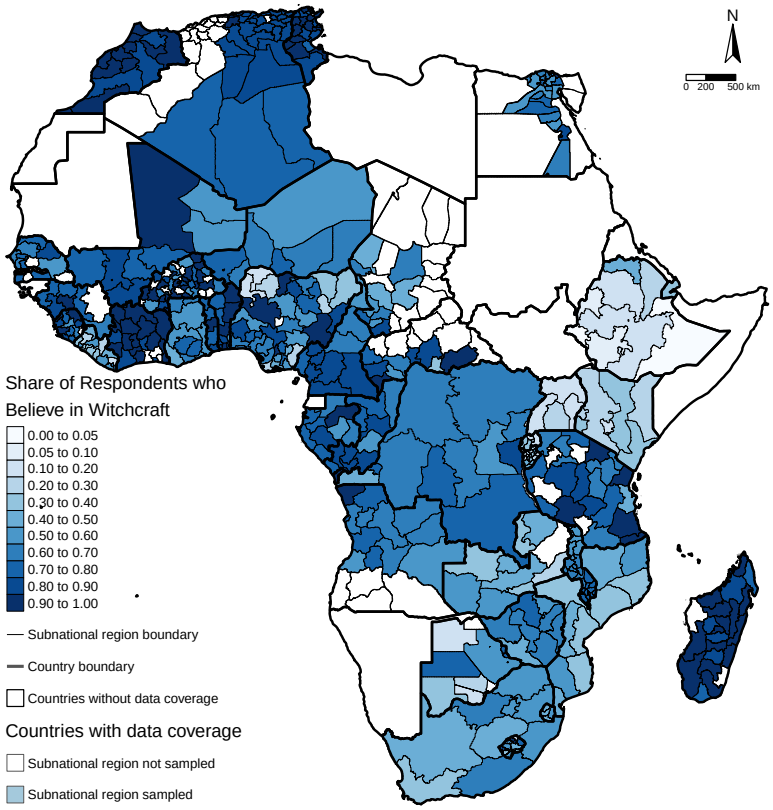
which is presumed to be one of the major world religions. The picture that emerges from such surveys, whose focus is on the major world religions, is very different – with "other," "folk," or "traditional" religions comprising only 6–7% of individuals' religions globally (e.g., Iyer, 2016, Figure 1) and 3–5% in Africa (e.g., Alesina et al., 2023, Appendix Figure 1). These statistics do not capture traditional religious believers who also believe in a major world religion. It is only when you ask about traditional religion that you measure its actual prevalence.

The situation is no different within Africa, where traditional beliefs are commonly held by those who also practice Christianity and Islam. Appendix Figure A1 presents the distribution of traditional practices – such as believing in witchcraft, believing in curses, or undergoing traditional ceremonies – by religious denomination. While these practices are most prevalent among those who report African Traditional Religion as their primary religion, they are still common among other denominations.

2.1. Traditional Religion in the DRC

Traditional religions in the DRC share many of the features of other African traditional religions. They are centered around a belief in ancestors and their support. The first ancestor is a creator

Figure 2: Witchcraft Beliefs in sub-Saharan Africa



Notes: The figure presents the share of individuals who report believing in witchcraft. The data are from the Sub-Saharan Africa Religion Survey (2008 and 2009), the World's Muslims Survey (2011 and 2012), and Gallup (2009 and 2011, waves 4 and 6).

who, unlike in Christianity or Islam, is believed to be the creator of a lineage and not the entire world. The Ngbaka, the majority ethnic group in our study, believe in Gàlè, a creator god associated with fertility and the origin of life. Although revered, Gàlè is considered distant and does not intervene in everyday affairs. More proximate are sibling-spouses, Sètò and Nàbo, who gave rise to the Ngbaka people through an act of primordial incest.

Ancestor veneration is central to Ngbaka religious practice. Households maintain a shrine where offerings and libations are made to the spirits of the deceased, who are believed to influence the fortunes and moral well-being of the living. These practices ensure continuity between generations and uphold the moral fabric of society. Other ritual practices among the Ngbaka included life-cycle ceremonies, agricultural rites, and initiation societies. For example, the *gazawili* initiation, marking the passage from boyhood to adulthood, involves seclusion, instruction in sacred knowledge, and masked dances invoking spirit beings. Additionally, the Ngbaka cosmology includes a host of ritual specialists—diviners, clairvoyants, healers, witches, and sorcerers—who mediate between the human and spirit worlds. These figures wield supernatural powers to diagnose illness, counteract misfortune, and enforce moral and spiritual order (Burssens, 1958).

The common English term for African traditional religious beliefs is 'witchcraft' ('sorcellerie' in

French), a term that reflects the perceptions of Christianity more than the reality of the traditional beliefs. Within the Christian framework, God created all humans, and so if other groups believe in other creators and obtain spiritual benefits from them, then the logical explanation for this is that the benefits derive from the devil. For this reason, 'witchcraft' is the term commonly used by Churches today, despite it not being an indigenous term (Paton, 2009, Chitakure, 2017). In our surveys and experiments, the term that we use is a participant's belief in '*bokoko*,' which is the Lingala word for 'ancestors,' 'customs,' or 'tradition', which captures the broader set of traditional beliefs.

A number of aspects of traditional religion in the setting are particularly important for motivating the details of the experimental design. We turn to these now, illustrating them through data collected in baseline surveys. The first is that, despite the widespread adoption of Christianity, traditional religious belief systems continue to persist. We find that nearly everyone (92%) reports believing either 'strongly' or 'very strongly' in Christianity (73% report believing 'very strongly'). At the same time, traditional religious beliefs remain strong: 46.5% report believing 'very strongly,' 26.5% report believing 'strongly,' 8.75% report 'neither believing nor disbelieving,' and 18.21% report a 'weak' or 'very weak' belief. In addition, people also recognize that most other individuals hold traditional beliefs. We ask individuals to report the prevalence of traditional religious beliefs in the area in which they live (Appendix Figure A2). In the urban sample, the most common response (close to 60%) was 'most people,' while in the rural sample, the most common responses were 'most people' and 'everyone' (about 40% each). The next most common response is 'some people.' Less than 4% report a value less than 'some people' – either 'a few' or 'no one'. Thus, nearly everyone in our sample correctly understands that the majority of the population continues to believe in traditional religion.

A key component of our study design is that we communicate the traditional beliefs held by players to their partners. Our estimates capture the causal effect of traditional beliefs when they are known. Thus, an important question is whether traditional religious beliefs are typically known by others. From focus groups and casual observation, it is clear that religion is openly discussed and is one of the first questions one would ask when getting to know someone new. In addition to observing one's gender and age, and asking about their ethnicity and education, it is common to ask about a person's religious beliefs. Often, these are also communicated by a person's appearance or dress. For example, if a person is wearing an amulet, jewelry, or similar items made from leopard teeth or accessories made from leopard skin, then this would communicate their beliefs.

Given the importance of this issue, we asked respondents whether people typically know about others' traditional religious beliefs. Only 0.20% of respondents (two people in total) indicated that this is 'never' known; 18% of respondents indicated that it is 'always' known; 38% indicated that it is 'often' known; 33% indicated 'sometimes' known; and 11% reported that it is 'rarely' known (Appendix Figure A3). Thus, while there is some variation, it is clear that in most cases, there is some knowledge about whether others hold traditional beliefs. Thus, we view the effect we estimate – how a person's beliefs affect how they are perceived and treated by others when these beliefs are known – to be empirically relevant and informative of the real world.

3. Perceptions of Traditional Religion

3.1. Perceptions of Traditional Religion Historically and Today

We begin by asking how traditional religion is represented in the historical ethnographic record. As a proxy for pre-contact perceptions of traditional religion, we use folktales, recently studied by Michalopoulos and Xue (2021), which comprise oral histories that have been passed down for many generations. Since folktales tend to remain relatively unchanged over time, they provide a glimpse into the values and beliefs of the past, before first exposure to Christianity, which for most of the continent was the late 19th or early 20th Century. Consistent with folktales reflecting historical content prior to Missionary contact, we find that among all societies in Africa, there are no folktales that mention 'Christian,' 'Christianity,' 'Catholic,' or other related words.

To gain a sense of how traditional beliefs are portrayed in traditional folklore, we identify all folktales from African societies that have motifs that contain the word "magic" or any of the related words identified using ConceptNet (Speer, Chin and Havasi, 2016). This returns 31 unique folktales that are common to multiple ethnic groups across the continent. Among them, in no folktale is magic or the user of magic depicted in a stigmatized manner. If we look at the consequences of the use of magic in the storyline, we find that in eighteen, it results in a positive outcome; in two, it has an effect that is not obviously positive or negative; and in eleven, it results in negative outcomes.

A second source of evidence on the historical perceptions of traditional religion is the *Ethnographic Survey of Africa*, a compilation of ethnographic accounts of ethnic groups across the African continent (Forde, 1950–77). Among the 1,107 ethnic groups who believe that spirits can provide a source of power that can be harnessed to affect others, 40% explicitly note that this can be used to help others (i.e., for good), and 45% report that it can be used to harm others. Twenty percent of groups think spiritual powers can be harnessed for good and bad. For the primary ethnic groups in our DRC sample, the ethnographic accounts in the ESA suggest that they believe supernatural powers can be used for both good and harm.[3] Thus, the ethnographic data also indicates a balance in the belief of whether traditional religion is used to harm or to help.

The historical perceptions stand in contrast to contemporary perceptions, which have become much more negative. For example, we ask people to report why they think people use or practice magic. The most commonly perceived reasons to use magic are to harm others and to defend against the spells of others. The next most common reasons listed are to make oneself healthier, wealthier, or more successful in life (e.g., having a successful business, finding a spouse, or having many children).[4] Among the participants in our study, 60% report having been harmed by witchcraft or other supernatural means in the past, and 26% worry about being harmed by

[3] All three primary ethnic groups in the DRC sample believe spirits can be used for good, and two of the groups believe they can cause harm.

[4] These patterns are very much in line with those found more generally across Africa. For example, a Gallup survey asks a subsample of 18,000 respondents the primary reasons individuals see a 'witch doctor.' The most common reasons listed are: to cure an illness or disease (22.9%), to place a spell on someone (19.3%), to become rich/find a job (19.1%), to cure a spell placed on them by a witch (13.8%), to inflict pain on someone (12.2%), to find a husband/wife (2.2%), and to have children (2.0%).

witchcraft in the future. Consistent with this, 79% believe that witchcraft is either a 'very effective' (53%) or 'somewhat effective' (26%) means of harming others.

3.2. Perception of Traditional Religion in Churches Today: Evidence from Sermons

Given the descriptive accounts of Christianity perceiving traditional beliefs negatively, we ask whether Christian churches in our study area do indeed have a negative perspective of traditional religious beliefs. We test this by recording audio of church sermons and analyzing their content. This allows us to explore whether Christian churches discuss traditional beliefs, and if so, in what manner.

We conducted a census of all churches in the major urban area of Sud-Ubangi province, our study setting. This results in 200 churches, which reflect many denominations, including Catholic, Protestant, Evangelical, and others (such as Kimbanguism). We randomly sampled 173 of these churches, where the probability of selection was proportionate to the estimated congregation size, and visited them, recording a Sunday sermon.[5] Enumerators recorded whether specific topics were mentioned during the sermon and the sentiment of the discussion about the topic, coded on a pre-specified scale. Among the topics recorded are three associated with traditional religion – specifically bokoko, witchcraft (*kindoki*), and traditional healers ("witch doctors").

For the sermons that enumerators flagged as discussing traditional beliefs, we transcribed the audio into written French. (Usually, the sermons are in Lingala or a combination of Lingala and French). The process was as follows. Two enumerators would listen to the audio of the sermon and write down the translation into French. The two transcriptions were then rectified to produce one final transcription and translation. This results in a data set of 107 translated sermons – which is the number of sermons in which bokoko, witchcraft, or witch doctors are mentioned.[6]

With these data, we conduct several types of analyses. First, across all of the sermons, we use the enumerator topic index to explore how frequently different topics are discussed. We restrict our analysis to topics that are mentioned at least 15 times across all of the sermons. The results are presented in Figure 3a. Death is discussed in over 75% of sermons, while politics is mentioned in around 15% of sermons. Strikingly, witchcraft is mentioned in close to half of all sermons; bokoko is mentioned in a quarter; and witch doctors are only mentioned in about 15 percent of sermons. Thus, traditional beliefs are a common topic in the sermons.

Next we look at how traditional beliefs are discussed during sermons. To provide the reader with sense of the content that underlies the findings from the text analysis, we first provide concrete examples of mentions in sermons. In the first example, sorcerers are presented as individuals to be afraid of and from whom God can provide protection. Additionally, the acceptance of God is predicated on refusing traditional beliefs. By refusing bokoko, individuals no longer need to be afraid, as God is more powerful than traditional religion. In the second example, traditional practices and a belief in bokoko are associated with Satan.

[5] See Appendix Figure A4 for a map of the churches in the study area.

[6] For information on the share of sermons by denomination type, see Appendix Figure A5.

"[. . .] follow me well: I say that when you have the spirit of God you will not be afraid of anyone, nor of the battles that may come, ***nor of the sorcerers****. Elijah had the spirit of God, Elijah opposed the King saying: the God we pray to is not this one, but the God we pray to is the God of armies.* ***As today you have accepted this father by refusing the bokoko, by refusing the fetishes****, even if there are battles, do not be afraid because the one who is in you is above them."* [Evangelical church, DRC; coded as negative]

"God does something for me, God does something like you are like that when you come to church it is to challenge Satan, but the one who prays to God is not less. ***The one who comes with the magical charm is Satan. Those who have bokoko challenge God. Those who kneel to pray to God and those who invoke the bokoko there is a difference between believer and child of Devil.****"* [Protestant church, DRC; coded as very negative]

One can also find examples of the negative perceptions of bokoko spilling over to custom and tradition specifically. This is consistent with the fact that belief in 'bokoko' is commonly understood to mean more than just literally belief in one's 'ancestors,' but also a more general adherence to tradition and custom. An example is provided in the following sermon, where congregants are encouraged to abandon their customs, which are equated to living in darkness:

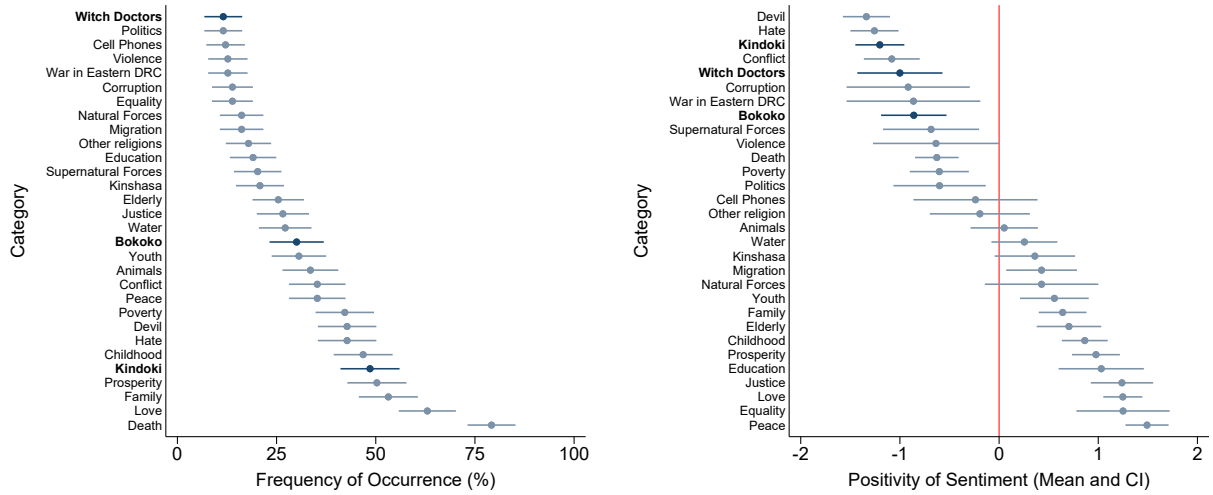
'This means that for God to perform a miracle for you, ***you must first abandon your customs and become a Christian; then custom will have no effect on you****, and in that way God can change much in your life. We said last week that for a person to begin to see change in his or her life, that person must come out of blindness."* [Evangelical church, DRC; coded as very negative]

Although less frequent, one can also find neutral or even positive mentions of traditional beliefs. These tend to be instances where the discussion refers to tradition or African customs more generally. In the examples below, tradition is described as being part of the community and valuing family. One exception is the second quote below, which praises African traditional religion and the power of the ancestors. The positivity is punctuated by the use of "Alleluia". At the same time, the pastor is encouraging individuals to rely on themselves, rather than on the power of the ancestors. This example illustrates that traditional beliefs can be described in a way that is not negative, even while conveying Christian messaging. However, as we will see, this portrayal of traditional religion is rare.

"I read an account by a theologian – he is French – who says that ***here in Africa, within traditional religion, what is it that Africans believe? For the African, he sees the spirit of his ancestors, and this gives him power.*** *Alleluia. You will agree with me that many Africans readily embrace this: you will see someone go to kneel early in the morning or in the middle of the night; he goes to offer praise at a bend in the road, because in his mind, he cannot obtain anything otherwise. But if he entrusts himself to it and accepts it fully, that, he believes, will bring him good fortune."* [Protestant church, DRC; coded as neutral/positive]

These results of the analysis of the sentiment of sermons as recorded by enumerators are presented in Figure 3b. As you might expect, topics like peace, love, and justice are discussed with positive sentiment. Our main topics of interest – bokoko, kindoki (witchcraft), and witch doctors – are discussed with negative sentiment. Particularly important, and perhaps surprising, is the fact that bokoko (belief in ancestors) is also portrayed negatively – only slightly more positively than kindoki (witchcraft) or witch doctors. Thus, bokoko is discussed more negatively than violence, death and poverty.

Figure 3: Topics Mentioned and Topic Sentiment as Recorded by Enumerator



(a) Topics Mentioned

(b) Topic Sentiment

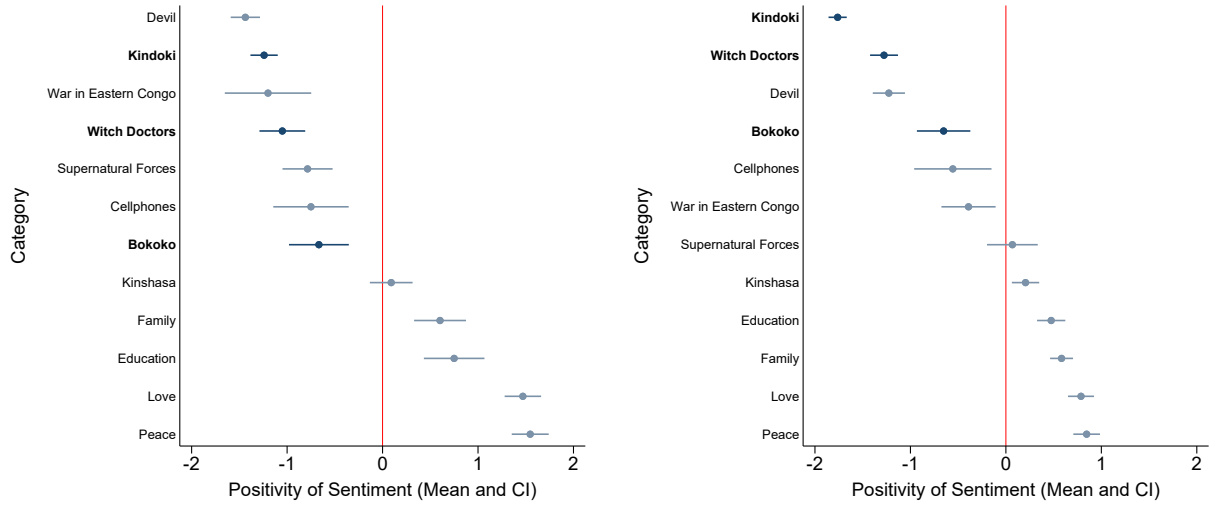
Notes: The left figure presents whether a topic is mentioned in a sermon based on the enumerator topic indexing for the full sample of sermons (n=173). We restrict the figure to those topics that are mentioned at least 15 times. The right figure presents the sentiment with which a topic is mentioned in a sermon based on enumerator coding for those topics that are mentioned at least 15 times. The primary topics of interest – bokoko, kindoki (witchcraft), and witch doctors are in bold.

We also use LLMs to analyze the content and sentiment of the translated sermons. We use two common LLMs – LlaMa and ChatGPT – to codify the sentiment for how a subset of topics is discussed in the sermons. We provide the LLMs with synonyms of our main topics of interest; for bokoko, these synonyms include words like: customary power, traditional power, tradition, and custom. We use the LLMs to then identify when and how our topics of interest are discussed in the translated sermons. For additional details on the settings, prompts, and versions for the LLMs, see Appendix A.2. These results are presented in Figure 4. Both LLMs yield a consistent set of findings: traditional religious beliefs are discussed with negative sentiment. For kindoki (witchcraft), this negative sentiment is about on par with how the devil is discussed in the sermons.

We verify that we find that traditional beliefs are spoken about with negative sentiment across different sentiment analysis methods: enumerator coding, LlaMa, ChatGPT, and a research assistant coding (Appendix Figures A6 and A7).

The results provide evidence that the churches in our sample tend to propagate negative views on traditional religious beliefs. This finding is in line with recent explanations for the success of Evangelical denominations, which, unlike other churches, accept the validity of traditional religions but associate ancestral spirits and with the devil. Emphasizing how spiritual power can be used to harm others, the churches then offer protection against the harm. Given this, we check whether the estimates are concentrated among Evangelical denominations, which comprise over 50% of the churches in the sample. The data show that although Evangelical denominations are slightly more negative than the rest, other denominations (Catholic, Protestant) are also very negative (Appendix Figure A8). This is consistent what what we were told when talking to

Figure 4: Topic Sentiment as Coded by LlaMa and ChatGPT



(a) LlaMa (b) ChatGPT

Notes: The figure presents the sentiment with which a topic is mentioned in a sermon based on LLM coding for the translated sample of sermons (n=107). The coding by LlaMa is in panel a; the coding by ChatGPT is in panel b. The coding varies from very negative (-2) to very positive (2). The primary topics of interest – bokoko, kindoki (witchcraft), and witch doctors are in bold.

religious leaders of non-Evangelical denominations. To compete for adherents, they have had to change the nature of their churches and sermons to be similar to the highly successful Evangelical churches.

We next turn to the external validity of these findings. We leverage data from the text of 187 sermons collected by McClendon and Riedl (2019). These are taken from churches, from a range of denominations, across six large English-speaking cities in Africa: Accra (Ghana), Lusaka (Zambia), Kampala (Uganda), Lagos (Nigeria), Nairobi (Kenya), and Johannesburg (South Africa). Using the same methods as our DRC analysis, we identify words related to African Traditional Religions and, for comparison, other topics regularly discussed in sermons.[7] We find that the patterns observed in the DRC are also found across Africa. Traditional religion is mentioned frequently (Appendix Figure A10). When mentioned, it is with negative sentiment (Appendix Figure A11). Interestingly, we find that Protestant churches (unlike Catholic, Evangelical, and other misc denominations) do not mention traditional beliefs (Appendix Figure A12). This may be a general pattern across the countries in our sample or could be driven by the fact we only have a small number of churches (fifteen in total) in this category. This remains an open interesting

[7] Full details about the sample, LLM prompts, and keywords related to traditional religions are provided in Appendix A.3. For information on the sermons from each country, refer to Appendix Table A1. For information on the denominations present in this sample, refer to Appendix Figure A9.

question.[8]

4. Behavior Towards Those Holding Traditional Religious Beliefs

We turn to an examination of how individuals treat others who continue to hold traditional religious beliefs. We collect data from two main samples – from individuals in an urban center in Sud-Ubangi province (henceforth, the "urban sample") and from individuals from 50 rural villages in Sud-Ubangi province (henceforth, the "rural sample").[9]

Our urban sample comprises 520 individuals randomly selected from the city. For logistical reasons related to the matching of participants in the games, we did not include individuals in the study who had uncommon characteristics. Specifically, we excluded individuals who were not from one of the three largest ethnic groups in the area (Ngbaka, Ngbandi, and Ngombe); the largest ethnic groups comprise 81 percent of a screening survey random sample. We also exclude individuals who did not have a strong or very strong belief in the Christian God; 88 percent of the screening survey sample have a strong or very strong belief in the Christian God. Columns 1–3 in Appendix Table A2 present the descriptive statistics for the main variables we use in our empirical analysis for the sample of urban respondents.

The rural sample comprises respondents from 50 randomly chosen villages in the territory (see Appendix Figures A13 and A14 for their locations). In each village, six men and six women were randomly chosen for a total sample size of 600 individuals. Columns 4 to 6 in Appendix Table A2 present the descriptive statistics for the main variables for the sample of rural respondents.[10]

As part of the initial survey described above, we asked individuals about the strength of their traditional religious beliefs. Eliciting this is an important component of our analysis, not because our estimates of interest directly use the variable, but because the perceived validity of our reported belief of the other player depends on whether a participant feels that they answered the question honestly. Thus, we asked respondents about their beliefs in a way that, based on extensive pre-testing, we felt elicited honest and unbiased responses. To ensure that the question was natural and not abrupt or abrasive, we asked about their beliefs in steps. First, we asked "Do you believe that individuals can harm others or protect themselves through supernatural means? (For example: witchcraft, black magic, fetishes, etc.)," with respondents choosing 'yes' or 'no.' The benefit of first asking this question is that it is fairly neutral and refers to the behavior of other individuals, not their own behavior. For those who answer yes, we then ask "How strongly held are your beliefs that certain individuals can hurt others using supernatural means? For

[8] There is one instance where people's "inner souls" is mentioned in a sermon. The full text is: "It is not a time to be anxious; it is a time to embrace and speak to our inner souls that this is a passing crowd. I'm imagining of the people who have been laid off some have been given permanent leave without pay, others their companies are going down, others have already closed their companies. The Lord is reminding us that we will triumph, we will be victorious." This is picked up as a positive mention of traditional religion, which is arguably a false positive. Thus, in our view, the best reading is that the sermons for the Protestant denominations in our sample do not mention traditional religion at all.

[9] The IRB asked us to conceal the exact locations of the study, including the name of the city and villages.

[10] For a summary of implementation differences between the urban and rural samples, refer to Appendix Table A3.

example, witchcraft." The response options are "very weak," "somewhat weak," "neither weak nor strong," "somewhat strong," and "very strong."

To construct the measure we use, individuals who answer 'no' to the first question are coded as being in the weakest belief category. All others are placed in the category they chose in response to the second question.[11] Since individuals rarely chose 'very weak' or 'somewhat weak,' for the experiment, we aggregated the categories 'very weak' and 'weak.' Thus, each individual's reported belief in traditional religion falls into one of the following four categories: (1) very weak or weak, (2) neither believe nor disbelieve, (3) strong, and (4) very strong.

In the experiments, individuals were not given the exact identities of the other players with whom they were playing in the experimental tasks. However, they were given the following information about the other player: their age group, gender, educational attainment, whether they are coethnic, strength of belief in the Christian God, strength of traditional beliefs (*bokoko*), and whether they grew up in a rural area. They were also told that the other players would have the same information about them. For the other player's characteristics, their age group is either young or old; their gender is either male or female; their education is has not completed primary school, has completed primary school, or has completed secondary school or higher; ethnicity is either same ethnicity as the respondent or a different ethnicity; their strength of belief in a Christian God is either a strong belief in the Christian God or a very strong belief in the Christian God for the urban sample and varies from very weak belief to very strong belief in the rural sample; their strength of traditional beliefs is weak or very weak, neither believe nor disbelieve, strong, or very strong; and whether they grew up in a rural area or not.

In both samples, we find that stronger traditional beliefs are correlated with less completion of secondary school and a stronger belief in the Christian God (Appendix Table A4). The fact that those who believe more strongly in traditional beliefs also believe more strongly in Christianity may appear surprising, but it is potentially explained by the fact that churches in the region, particularly evangelical and born-again churches, often integrate traditional religious beliefs into their teachings and even offer prayer and blessings from God as forms of protection from witchcraft. Thus, in our setting, a belief in the supernatural is not at odds with a belief in God. In addition, while the two are positively correlated, there is a lot of independent variation, which allows us to estimate the effect of traditional beliefs separately from Christian beliefs.

The primary experimental manipulation is the randomization of the strength of the other player's traditional religious beliefs. Participants completed two iterations of each experimental activity. The assignment of the other player's characteristics was stratified so that in one of the two iterations (randomly chosen), the participant is paired with someone with either 'strong' or 'very strong' traditional beliefs, and in the other, they are paired with someone with 'weak or very weak' traditional beliefs or who 'neither believes nor disbelieves.' The remaining characteristics of the other player are also randomly assigned, although we do not stratify on those them.[12]

[11] Individuals who reported "do not know" to the second question are assigned to the "neither strong nor weak belief" category.

[12] The matching used to calculate payouts was done using a larger sample of individuals than those who participated in the study. This allowed us to support a larger range of profiles for the other players in the games – e.g., different combinations of player characteristics that one could potentially be matched with – while also avoiding deception.

4.1. Experimental Design

Our first analysis examines the extent to which the behavior of participants changes when paired with a player who has strong traditional beliefs, relative to being paired with a player who has weak traditional beliefs. We measure behavior in three different games: the Dictator Game (DG), Choose Your Dictator Game (CYD), and Joy of Destruction Game (JOD). In each game, the respondent plays two rounds, each time with a different player, one of whom has strong traditional beliefs and one of whom has weak traditional beliefs. As described above, all other player characteristics are randomly assigned. We now turn to a detailed description of each of the three games.

The first activity is a version of the standard dictator game (DG). A participant (the dictator) is given CF 1,000 (in the form of ten CF 100 bills) to allocate between themselves and another player. The participant is told that they will not know the exact identity of the other player, but they will have several pieces of information about the other player, as described above. Likewise, the participant is told that the other player will have the same information about them. The participant then makes their allocation in private, dividing the ten CF 100 bills into two envelopes, one for themselves and one for the other player. An umbrella is used to shield their allocation choice from the enumerator. The participant (dictator) keeps their own envelope and puts the envelope for player 2 in a bag located next to them, which is collected by the enumerator after the conclusion of all games.

The second game is a version of a standard choose-your-dictator (CYD) game.[13] As noted, in the DG, a participant (the dictator) chooses to allocate money between themselves and another player. In the CYD, the participant chooses who the dictator will be in a dictator game where the participant is the second player. The participant is presented with two individuals (labeled person A and person B), one of whom must be chosen to be the dictator. The participant is given information about persons A and B and knows that persons A and B also have the same information about them. The participant tells the enumerator which person (A or B) they choose to have as the dictator in the DG. The CYD game captures the extent to which the participant views person A or B as likely to be generous towards someone like them, as well as the participant's own altruism towards the other player.

The final game is a one-sided joy-of-destruction (JOD) game (Zizzo and Oswald, 2001). In this activity, the participant is told that they and another player have each been given CF 2,000. The other player is anonymous, but the participant is provided with the information described above. They are also told that the other player will have the same information about them. The participant is then given three choices: (1) they can pay CF 200 from their own endowment of CF 2,000 to reduce the endowment of the other player by CF 1,000; (2) they can pay CF 200 from their own endowment to increase the endowment of the other player by CF 1,000; (3) they can choose to neither increase nor decrease the amount of the other player so that they both receive CF 2,000. Choosing to neither increase nor decrease the payoff of the other player comes at no cost. The participant makes their decision by marking an "X" next to their choice on a sheet of paper that

[13] See Berge, Bjorvatn, Galle, Miguel, Posner, Tungodden and Zhang (2020) and Haushofer, Lowes, Musau, Ndetei, Nunn, Poll and Qian (2024) for prior implementations of this game.

provides an illustrated version of the options. The decision is made in private, using an umbrella as a shield, and the marked sheet is put in an envelope, sealed, and placed in a bag collected by the enumerator.

4.2. Empirical Results

We estimate the following equation:

$$y_{ij} \quad = \quad \beta_1 \, \textit{Traditional Beliefs}_i + \beta_2 \, \textit{Traditional Beliefs}_j + \mathbf{X}_i\mathbf{\Phi} + \mathbf{X}_j\mathbf{\Gamma} + \varepsilon_{ij}. \tag{1}$$

The unit of observation is a participant i who plays against another player j. The dependent variable y_{ij} denotes the action in a game by individual i when playing with individual j (equation (1) is estimated separately for each action of a game). $\mathbf{X}_i$ is a vector that includes fixed effects for participant i's age group, gender, education level, whether the individual grew up in a rural area (i.e., village rather than a city), and strength of belief in the Christian God. $\mathbf{X}_j$ includes fixed effects for these same characteristics of player j, plus a fixed effect that equals one if player i and player j belong to the same ethnicity. We present both robust standard errors and standard errors clustered at the individual level.

The variable *Traditional Beliefs*$_j$ is a measure of the strength of player j's belief in *bokoko*. Similarly, *Traditional Beliefs*$_i$ is the analogous measure for player i. Our primary interest is in the sign of the coefficient β_2, which provides an estimate of whether the behavior of a player changes when the other player has strong traditional beliefs. The secondary coefficient of interest is β_1. This tells us whether a player's behavior is affected by his or her own strength of traditional beliefs. Because we can randomize the characteristics of player j but not of player i, the interpretation of β_2 as the causal effect of traditional beliefs is more straightforward than for β_1.

We also estimate a second baseline equation that replaces the fixed effects for player i characteristics ($\mathbf{X}_i$) with player i fixed effects. Thus, the estimates of interest are derived from comparisons of the actions chosen by a player when paired with different types of partners. The estimating equation is:

$$y_{ij} = \alpha_i + \beta \, \textit{Traditional Beliefs}_j + \mathbf{X}_j\mathbf{\Gamma} + \varepsilon_{ij}, \tag{2}$$

where all definitions are as before, and α_i denotes player i fixed effects. Because these fixed effects absorb *Traditional Beliefs*$_i$, this variable and all other player i characteristics do not appear in equation (2).

We present our results with different measures of *Traditional Beliefs*. First, we measure the strength of the belief on an integer scale that ranges from one to four and is increasing in strength of belief. Second, we create an indicator variable by collapsing the data into the two categories over which randomization occurs: (1) "weak," which is defined as those who report 'very weak or weak' or 'neither believe nor disbelieve' and (2) "strong," which is defined as those who report 'strong' or 'very strong' traditional beliefs. The indicator equals one if the participant has a strong or very strong belief.We report estimates separately for the rural sample, urban sample, and for both samples pooled together (with a sample fixed effect).

The full experiments, including the games played, the measurement, and the econometric specifications, were pre-registered with registration numbers AEARCTR-0003276 and AEARCTR-0004878 (Lowes and Nunn, 2018, 2019).[14] All pre-specified analyses and robustness tests are reported, either in the body of the paper or the appendix.

We now turn to our estimates of equations (1) and (2). The estimates for the DG are reported in Table 1. The dependent variable is the amount given to player 2 (the recipient) by player 1 (the dictator) out of a total of CF 1,000. The odd-numbered columns report specifications without player i (i.e., player 1) fixed effects, equation (1); the even-numbered columns report specifications with respondent fixed effects, equation (2). We present our results with two different measures of traditional beliefs: an integer scale that ranges from 1–4 and an indicator variable that equals one if the participant has strong or very strong traditional beliefs. Columns 1–4 present the analysis where we pool both samples and include a sample fixed effect.[15] Player 2s with a strong or very strong traditional belief are allocated CF 19 less (columns 3 and 4); this is the case with and without player 1 fixed effects.

The table also reports the estimated coefficient for the beliefs of player 1 – i.e., β_1 in equation (1). As we have noted, the interpretation of this coefficient is less clear since we are unable to randomize the characteristics of player 1 (as we can do for player 2). With this caveat in mind, we find evidence that participants with stronger traditional beliefs give less in the dictator game. The coefficient is negative and insignificant in the urban sample and negative and significant in the rural and pooled samples.

The estimates for the CYD are reported in Table 1, columns 5–8. In the game, after a participant, player 1, chooses which of two players to play with, then the chosen player, player 2, plays a dictator game, choosing an amount out of 1,000 CF to allocate to player 1. The dependent variable is an indicator variable that equals one if a person is selected by player 1 to be the dictator. We find strong evidence that a player's traditional beliefs negatively affect the probability that they are chosen in the CYD.[16] When beliefs are measured using a 1–4 integer scale, a one-point increase in traditional beliefs is associated with a decrease in the probability of being chosen by 14 percentage points for both urban and rural samples. Thus, a full three-point increase is associated with a decrease of about 45 percentage points. If player 2 has strong or very strong traditional beliefs, the probability of being chosen is reduced by 35 percentage points. Thus, not only are the estimated effects highly significant, but they are also extremely large in magnitude, particularly compared to the mean probability of being picked, which, by design, is 50%. Thus, the findings suggest that individuals are extremely hesitant to engage in a relationship with those who hold strong traditional beliefs.

We next turn to our JOD estimates, which are reported in Table 1, columns 9–12. In these regressions, the dependent variable is a measure that is increasing in the extent to which player 1 makes a prosocial decision. The variable takes on the value of -1 if player 1 chooses to pay

[14] Each pre-analysis plan corresponds to a phase of data collection. The first is for the games data collection in the city. The second is for the norms data collection in the city. For the data collection in the villages, we submitted a modification to the second pre-analysis plan.

[15] To see the DG results separately for the urban and rural samples, refer to Appendix Table A5.

[16] To see the CYD results separately for the urban and rural samples, see Appendix Table A6.

Table 1: Experimental Game Estimates

	OLS, Dep. Var.:											
	DG: Amount Sent to Other Player (in CF)				*CYD: Chose Player as Dictator*				*JOD: Choice in JOD*			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Player 2's Traditional Beliefs:												
Integer Measure, 1-4	-6.675	-8.441			-0.140	-0.148			-0.043	-0.043		
	[3.746]*	[2.802]***			[0.006]***	[0.007]***			[0.013]***	[0.012]***		
	(2.872)*	(3.964)***			(0.009)***	(0.010)***			(0.012)***	(0.018)***		
Strong or Very Strong			-19.613	-19.749			-0.354	-0.354			-0.096	-0.093
			[8.342]**	[6.098]***			[0.014]***	[0.016]***			[0.029]***	[0.026]***
			(6.166)**	(8.626)***			(0.021)***	(0.024)***			(0.026)***	(0.037)***
Player 1's Traditional Beliefs:												
Integer Measure, 1-4	-9.653				-0.002				-0.027			
	[3.701]***				[0.006]				[0.013]**			
	(4.487)***				(0.002)				(0.014)**			
Strong or Very Strong			-22.363				-0.002				-0.048	
			[9.597]**				[0.016]				[0.033]	
			(11.723)**				(0.004)				(0.035)	
Player 1 FE	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y
Sample FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Observations	2,240	2,240	2,240	2,240	4,480	4,480	4,480	4,480	2,212	2,212	2,212	2,212
Respondents	1,120	1,120	1,120	1,120	1,120	1,120	1,120	1,120	1,111	1,111	1,111	1,111
Mean Dep. Var.	452.2	452.2	452.2	452.2	0.5	0.5	0.5	0.5	0.1	0.1	0.1	0.1
SD Dep. Var.	199.9	199.9	199.9	199.9	0.5	0.5	0.5	0.5	0.7	0.7	0.7	0.7

Notes: The table reports OLS estimates of equation 1 and 2. All columns include fixed effects for player 2 characteristics: gender, educational attainment, grew up in a rural area, strength of belief in the Christian God, and same tribe as player 1. Odd-numbered columns include fixed effects for the equivalent player 1 characteristics. Even-numbered columns include player 1 fixed effects. *Amount Sent to Other Player* is the amount player 1 sends to player 2 in an anonymous dictator game (in CF). *Chose Player as Dictator* is an indicator variable equal to 1 if this player was selected. *Choice in JOD* takes the value of -1 if player 1 chooses to decrease the endowment of player 2, 0 if player 1 chooses to do nothing, and 1 if player 1 chooses to increase the endowment of player 2. *Traditional Beliefs* is a variable from 1 to 4, where (1) is weak traditional beliefs, (2) neither weak nor strong traditional beliefs, (3) strong traditional beliefs, and (4) very strong traditional beliefs. Columns 1, 2, 5, 6, 9, and 10 present the results with traditional beliefs as a 1 to 4 variable. Columns 3, 4, 7, 8, 11, and 12 present the results with an indicator variable that equals 1 for strong or very strong traditional beliefs, where the omitted category is weak traditional beliefs or neither weak nor strong traditional beliefs. Robust standard errors are reported in []. Standard errors clustered at the individual level in (). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

to reduce the payoff of player 2; it takes on the value of 0 if player 1 chooses to do nothing, and it takes on the value of 1 if player 1 chooses to pay to increase the payoff of player 2. We find that 52% of the urban sample and 52% of the rural sample choose to do nothing; 32% of the urban sample and 28% of the rural sample choose to increase the endowment of the other player; and 16% of the urban sample and 20% of the rural sample choose to decrease the endowment of the other player. Consistent with the estimates from the DG and CYD games, player 1 behaves less prosocially in the JOD when randomly paired with a player 2 who has stronger traditional religious beliefs.[17]

We also examine results by each possible JOD choice – to increase, to decrease, or to do nothing – where the outcome is equal to 1 if that action was chosen. When playing with a partner with strong or very strong traditional beliefs, individuals are five percentage points less likely to increase their partner's endowment (Appendix Table A8); about four percentage points more likely to reduce their endowment (Appendix Table A9); and are equally as likely to do nothing (Appendix Table A10).

Robustness and Sensitivity Checks

In Appendix S, we report all robustness tests that were pre-specified in our pre-analysis plans (Lowes and Nunn, 2018, 2019). We present estimates for each game with player 1 controls; player 1 fixed effects; robust standard errors, standard errors clustered at the individual level, two-way

[17] To see the JOD results separately for the urban and rural samples, refer to Appendix Table A7.

clustered standard errors by player types, and randomization inference; game order, day, and enumerator fixed effects; and controlling for bilateral characteristics between player 1 and player 2 (e.g. characteristics shared between player 1 and player 2) (Appendix Figures S1–S3). We also present estimates checking the robustness of our findings to measuring traditional beliefs using an indicator variable for each category (Appendix Tables S1–S3), and the CYD results with a logit specification (Appendix Table S4).

We address the possibility that some individuals might not be fully open about their own traditional beliefs. They may also expect others to do this, which could affect their behavior, potentially biasing our estimates. To address this, we asked our enumerators to assess whether they thought respondents were honest when asked about their traditional religious beliefs. After being asked "How honest do you think the respondent was when answering questions about witchcraft?" the enumerators reported whether they felt the respondent was: 'very dishonest,' 'somewhat dishonest,' 'neither dishonest nor honest,' 'somewhat honest,' or 'very honest'. We find that people tend to be honest about their traditional beliefs (see Appendix Figure A15 for the distribution). Only 4.6% of respondents are viewed as being dishonest, either somewhat dishonest or very dishonest. Further, as reported in Appendix Tables A11–A13, the estimates are very similar if these participants are omitted from the analysis.

Magnitude and Economic Significance

Beyond being statistically significant, we also find that the magnitude of these effects is economically significant. According to our estimates, in the urban sample, if a player 2 who believes in traditional religion played the full set of games and rounds of our behavioral experiments, then, given the modal behavior of player 1, they would earn $3.15 USD. An otherwise identical player 2 who did not believe in traditional religion would earn $3.54, a difference of 39 cents or 12.4%. In the rural sample, a player 2 who believes in traditional religion would earn $2.97, and a non-believer would earn $3.30, a difference of 33 cents or 11.1%. In a setting where per capita incomes are among the lowest in the world and close to subsistence, a ten percent difference in incomes is sizeable and important.

5. Social Norms and Perceptions of Those Holding Traditional Religious Beliefs

We now turn to the factors that support the behavior identified in our experiments, examining whther perceptions of socially appropriate and inappropriate behavior in the games (i.e., social norms) or their perceptions (e.g., stereotypes) of the other player, could potentially explain the behavior we observe.

5.1. Social Norms

Motivated by evidence that norms are important determinants of behavior in experiments and everyday life,[18] we first measure social norms regarding appropriate and inappropriate behavior

[18] See for example, Fernandez (2007), Fernandez and Fogli (2009), Krupka and Weber (2013), Kimbrough and Vostroknutov (2016), Costa-Font, Giuliano and Ozcan (2018), Bursztyn, Gonzalez and Yanagizawa-Drott (2020a).

in our experiments. It is possible that the antisocial behavior we observe is dictated by social norms supportive of this behavior. A second benefit of examining social norms is that they are less prone to experimenter demand effects. As we explain, participants do not report their beliefs about what they think is socially acceptable, but their expectations of what others will report about the social acceptability of different actions. Additionally, their responses are incentivized. If their answers are accurate, participants receive sizeable payments.

For the urban sample, the measures were collected during an additional round that occurred approximately one year after the first round of visits. We were able to reinterview 449 of the original 520 urban respondents. For the rural sample, the two rounds of visits were conducted within the same week. We purposefully used the same sample of individuals because they had past experience with the behavioral games. Understanding the games and the choices that can be made in them is crucial to being able to answer the questions about how appropriate different actions are.

The strategy that we use to measure norms follows the method developed by Krupka and Weber (2013). Individuals were reminded of the three experimental tasks that they had participated in, and we reviewed how they were played. Participants were then asked to imagine that there is a hypothetical decision maker (i.e., player 1) who is completing the experimental task. The participant is given information on the identity of the person that the decision maker in the task has been paired with (i.e. player 2). For each possible choice that the decision maker in the task could make, the participant is asked: "Is this choice very socially inappropriate, somewhat socially inappropriate, somewhat socially appropriate, or very socially appropriate?" Earlier in the protocol, participants are given the following explanation about the meaning of socially appropriate:

> *"After I describe the situation and decision made by the person, I would like you to evaluate the decision and decide whether the action is 'socially appropriate' and 'consistent with moral or proper social behavior' or 'socially inappropriate' and 'inconsistent with moral or proper social behavior.' By socially appropriate, I mean behavior that most people in the [study area] agree is the 'correct' or 'ethical' thing to do."*

To elicit norms, we do not ask participants to choose the answer that they think is the correct thing to do. Instead, we ask them to choose the most common response to the question of what will be the most common response of the others in the study area. That is, all individuals are trying to choose what will be the most common choice of others trying to make the same decision. To encourage individuals to consider their answers carefully, the responses are incentivized. For each game, if all of a respondent's responses about the appropriateness of each choice is the most common response among all participants, then the respondent receive CF 5,000 in the urban sample and CF 3,000 in the rural sample. If they get one or more answers incorrect for a game, they receive no payment.

As in the experiments, individuals are not given the exact identity of the player that player 1 is paired with; they are given the same information as in the original experiments. As before, the primary experimental manipulation is the other player's strength of traditional religious beliefs. Participants complete two iterations of the set of questions about each experimental

activity, stratified by the other player's traditional beliefs. Each participant responded to questions regarding how socially appropriate actions are in the dictator game (DG), choose-your-dictator game (CYD), and the joy-of-destruction game (JOD). For the dictator game, there are 11 possible allocation choices (corresponding to each possible amount from 0 CF and 1,000 CF that can be allocated to the other player); in the CYD game, two possible choices (choose player A or choose player B); and in the JOD game, there are three possible choices (decrease the endowment of the other player, do nothing, increase the endowment of the other player).

We code participant responses of how socially appropriate actions are using a 1–4 integer scale where 1 corresponds to 'very socially inappropriate' and 4 to 'very socially appropriate.' We then re-estimate variants of equations (1) and (2) with the measure of social appropriateness as the outcome of interest. The regressions are estimated separately for each potential action that could be chosen in each game. In this way, we are able to estimate how the social appropriateness of an action depends on whether the other player has strong traditional beliefs or not.

Specifically, the equations take the following form:

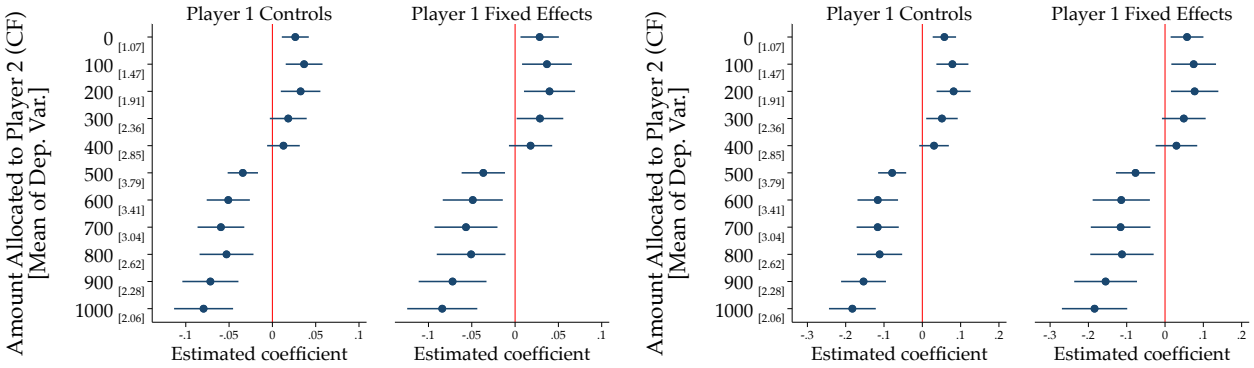
$$Appropriate_{ij}^{k} = \beta_1^k Traditional\ Beliefs_i + \beta_2^k Traditional\ Beliefs_j + \mathbf{X}_i\mathbf{\Phi}^k + \mathbf{X}_j\mathbf{\Gamma}^k + \varepsilon_{ij}^k, \quad (3)$$

where k denotes an action in a game, i denotes the participant, and j denotes player 2. $Appropriate_{ij}^{k}$ is the reported 1-4 integer measure of appropriateness (according to participant i) of decision k made when paired with player j. $\mathbf{X}_i$ and $\mathbf{X}_j$ denote our vectors of controls for the player i and j characteristics. As before, in the fixed effects specifications, player i controls are replaced with player i fixed effects, α_i^k. $TraditionalBeliefs_i$ and $TraditionalBeliefs_j$ denote the strength of traditional religious beliefs for participant i and player j, respectively. The coefficients of interest are the β_2^k's, which capture the effect of player j's traditional beliefs on the appropriateness of decision k. We report robust standard errors, and standard errors are clustered at the respondent level.

We first consider the dictator game. The coefficients of interest are summarized in Figure 5, and the full estimates are reported in Appendix Table A14. We present the estimated coefficient (and 95% confidence intervals) for the 1-4 integer measure of player 2's strength of traditional beliefs (Figure 5a) and for the strong or very strong indicator measure of player 2's strength of traditional beliefs (Figure 5b). Each figure shows results for the specification with player 1 controls and with player 1 fixed effects.

A clear pattern emerges from the estimates. For amounts allocated to player 2 that are CF 500 (50%) or above, the stronger the traditional religious beliefs held by player 2, the less socially appropriate it is to allocate large amounts to them. By contrast, for amounts below CF 500 (50%), a stronger belief by player 2 is associated with it being more socially appropriate to allocate a smaller amount to them. More generally, with the exception of the zero allocation, there is a nearly perfect monotonic ordering of the estimate for each allocation. It is perceived that allocating smaller amounts to someone with strong traditional beliefs is more socially acceptable than to someone who has less strong traditional beliefs. For the zero allocation, the overwhelming belief is that it is not acceptable to give nothing to the other player whether or not they have strong traditional beliefs – 98% of respondents say it is very socially inappropriate to send zero to the

Figure 5: Effect of Player 2's Traditional Beliefs on How Appropriate Choices are in the DG



(a) Traditional Beliefs as a 1 to 4 integer

(b) Strong or V. Strong Traditional Beliefs

Notes: The figure reports OLS estimates of equation 3. The figure presents the effect of player 2's traditional beliefs on how appropriate each allocation choice is in the DG for both samples. The eleven choices in the DG correspond to the amounts between CF 0 and 1,000 that can be sent to the other player. 'Appropriate' is a 1 to 4 variable, where (1) is very socially inappropriate, (2) is somewhat socially inappropriate, (3) is somewhat socially appropriate, and (4) is very socially appropriate. The mean value of appropriate for each choice is denoted in brackets. *Traditional Beliefs* is a variable from 1 to 4, where (1) is weak traditional beliefs, (2) neither weak nor strong traditional beliefs, (3) strong traditional beliefs, (4) very strong traditional beliefs. The subfigure in column (a) presents the results with traditional beliefs as a 1 to 4 variable; the subfigure in column (b) presents the results with traditional beliefs as an indicator variable equal to 1 for strong or very strong traditional beliefs. 'Player 1 Controls' denotes the specification with fixed effects for player 1 characteristics; 'Player 1 Fixed Effects' denotes the specification with player 1 fixed effects. Standard errors are clustered at the individual level.

other player. Thus, the estimated coefficient is zero. Appendix Figure A16 reports the results for the urban sample and rural sample separately.

Estimates for the CYD game are reported in Table 2. As with the previous results, choosing a person to be the dictator in the dictator game is seen as less socially appropriate if that person has stronger traditional beliefs. The table also reports estimated coefficients for player 1's traditional beliefs – i.e., β_1 in equation (1). Consistent with all the previous findings, the beliefs of player 1 are uncorrelated with the outcomes of interest. Refer to Appendix Table A15 for the results by sample.

Estimates of the JOD game are summarized in Figure 6, with full estimates by choice reported in Appendix Tables A16–A18. For each game, there are three potential choices: decrease the other player's payoff, do nothing, and increase the other player's payoff. The findings for this game echo the findings from the previous two games. Participants feel that it is more socially appropriate to decrease the payoff of the other player when the other player has stronger traditional beliefs. Similarly, they feel that it is less socially appropriate to increase the payoff of the other player when the other player has strong traditional beliefs. Lastly, it is equally appropriate to do nothing. Appendix Figure A17 reports the results by sample.

Robustness and Sensitivity Checks

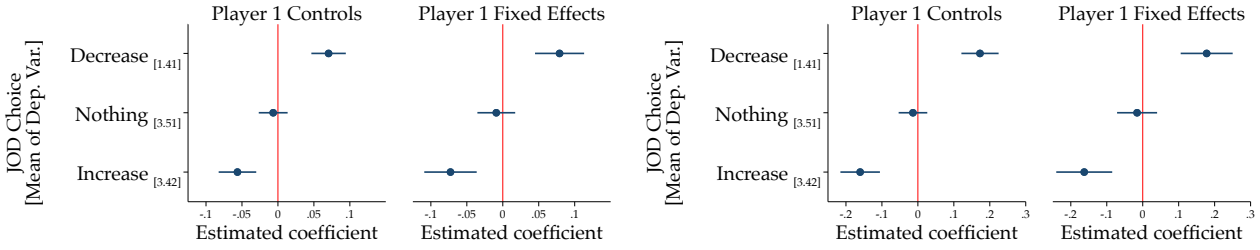
In Appendix S, we present the following pre-specified robustness tests. We present the norms results: with player 1 controls; with player 1 fixed effects; with robust standard errors, clustered standard errors, two-way clustered standard errors by player types, and using randomization inference; with game order, day, and enumerator fixed effects; and with controls for bilateral characteristics between player 1 and player 2 (Appendix Figures S4–S9). We also present estimates

Table 2: Effect of Player 2's Traditional Beliefs on How Appropriate to Choose Player in CYD

	OLS, Dep. Var.: Appropriate to Choose Player, 1-4			
	(1)	(2)	(3)	(4)
Player 2's Traditional Beliefs:				
Integer Measure, 1-4	-0.291	-0.307		
	[0.013]***	[0.014]***		
	(0.017)***	(0.020)***		
Strong or Very Strong			-0.735	-0.734
			[0.030]***	[0.030]***
			(0.038)***	(0.044)***
Player 1's Traditional Beliefs:				
Integer Measure, 1-4	-0.007			
	[0.014]			
	(0.014)			
Strong or Very Strong			-0.029	
			[0.036]	
			(0.035)	
Player 1 FE	N	Y	N	Y
Sample FE	Y	Y	Y	Y
Observations	4,180	4,180	4,180	4,180
Respondents	1,045	1,045	1,045	1,045
Mean Dep. Var.	2.925	2.925	2.925	2.925
SD Dep. Var.	1.075	1.075	1.075	1.075

Notes: The table reports OLS estimates of equation 3. The data are stacked so that there are four observations per respondent, one corresponding to each person that they could choose between for the two rounds of the CYD. All columns include fixed effects for player 2 characteristics: gender, educational attainment, grew up in a rural area, strength of belief in Christian God, and same tribe as player 1. Odd-numbered columns include fixed effects for the equivalent player 1 characteristics. Even-numbered columns include player 1 fixed effects. *Appropriate to Choose Player* is a 1 to 4 variable, where (1) is very socially inappropriate, (2) is somewhat socially inappropriate, (3) is somewhat socially appropriate, and (4) is very socially appropriate. *Traditional Beliefs* is a variable from 1 to 4, where (1) is weak traditional beliefs, (2) neither weak nor strong traditional beliefs, (3) strong traditional beliefs, and (4) very strong traditional beliefs. Columns 1, 2, 5, 6, 9, and 10 present the results with traditional beliefs as a 1 to 4 variable. Robust standard errors are reported in []. Standard errors clustered at the individual level in (). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Figure 6: Effect of Player 2's Traditional Beliefs on How Appropriate Choices are in JOD



(a) Traditional Beliefs as a 1 to 4 integer

(b) Strong or V. Strong Traditional Beliefs

Notes: The figure reports OLS estimates of equation 3. The figure presents the effect of player 2's traditional beliefs on how appropriate each choice is in the JOD for both samples. The three choices in the JOD are to decrease, do nothing, or increase the endowment of the other player. 'Appropriate' is a 1 to 4 variable, where (1) is very socially inappropriate, (2) is somewhat socially inappropriate, (3) is somewhat socially appropriate, and (4) is very socially appropriate. The mean value of appropriate for each choice is denoted in brackets. *Traditional Beliefs* is a variable from 1 to 4, where (1) is weak traditional beliefs, (2) neither weak nor strong traditional beliefs, (3) strong traditional beliefs, (4) very strong traditional beliefs. The subfigure in column (a) presents the results with traditional beliefs as a 1 to 4 variable; the subfigure in column (b) presents the results with traditional beliefs as an indicator variable equal to 1 for strong or very strong traditional beliefs. 'Player 1 Controls' denotes the specification with fixed effects for player 1 characteristics; 'Player 1 Fixed Effects' denotes the specification with player 1 fixed effects. Standard errors are clustered at the individual level.

that show the robustness of our findings to measuring traditional beliefs using indicator variables for each category of the measure (Appendix Tables S5–S9).

5.2. Perceptions of those with Strong Traditional Religious Beliefs

Thus far, we have presented evidence that those with strong traditional beliefs are treated less prosocially and that this behavior is perceived as being socially acceptable. To better understand the determinants of this, we turn to the question of whether these norms and behaviors are rooted in different perceptions of traditional believers. While natural to expect this, it is not a foregone conclusion. For example, it is possible that due to the presence of Christianity, individuals do not hold negative feelings towards traditional believers, but they act as if they do. This could lead to the perceived norms and the behaviors that we document. This would be an example of pluralistic ignorance and preference falsification (Bursztyn, Egorov and Fiorin, 2020b).

To obtain a valid measure of a person's true perceptions of traditional believers, particularly where social image concerns or experimenter demand may be present, we use the 'conjunction fallacy,' which is a tool that is used to elicit perceptions that individuals may have about others (Tversky and Kahneman, 1983). The canonical example of the conjunction fallacy comes from a scenario about Linda, a woman who is an outspoken liberal and is single and politically active. Respondents are asked whether it is more likely that Linda is a bank teller or that Linda is a bank teller and a feminist. Statistically speaking, it is more likely that Linda is a bank teller than a bank teller and a feminist. However, respondents often indicate that they feel it is more likely that she is a bank teller and a feminist. This incorrect answer reflects the association that they have in their mind between feminists and Linda's characteristics.

We use this method to elicit associations that participants have about those who have traditional religious beliefs. We construct scenarios that describe individuals with positive characteristics, such as being: generous, honest, socially included, benevolent, and even-tempered. We also construct scenarios describing people with negative characteristics: selfish, dishonest, socially excluded, jealous, and vindictive. For each scenario, we then ask the participant if it is more likely that the character in the scenario is (1) a baseline characteristic (e.g., teacher); (2) the baseline characteristic and someone with strong traditional beliefs; (3) the baseline characteristic and someone with strong Christian beliefs. This allows us to measure whether a participant associates certain characteristics with traditional beliefs or Christian beliefs. Given our findings about the association between traditional beliefs and behavior and norms, we expect traditional beliefs to be associated with negative characteristics.

For this activity, we recruited a random sample of 523 individuals from the city.[19] Participants listen to scenarios where the character exhibits the positive or negative traits (in random order) described above. While the complete list of the conjunction fallacy scenarios is provided in Appendix A.7, we provide one example here for illustration: "Adrian is 35 years old. He lives in the city and sells airtime in the market. One day, a customer accidentally gives him 200 CF more than the price of the airtime. Adrian notices as the customer is walking away, but instead of

[19] Because of cost over-runs related to the COVID-19 pandemic, combined with a limited budget, we were unable to also have a sample from the rural villages for this activity.

notifying him, puts the money in his pocket to keep it." Participants are then asked: "Is it more probable that Adrian is (1) a married man or (2) a married man who is a strong believer in bokoko or (3) a married man who is a strong believer in the Christian God?". If option 1 is chosen, then the participant does not commit the conjunction fallacy. If option 2 is chosen, then this indicates that the characteristics described in the scenario are associated with traditional religious beliefs. If option 3 is chosen, then this suggests the characteristics are associated with Christianity.

The findings are reported in Table 3. First, we present results for a scenario that did not have a negative or positive connotation. Instead, it described a character who really enjoyed eating goat and cassava. In that scenario, most people (65%) do not make the conjunction fallacy. We view this as a helpful baseline.

When we examine the positive characteristics, respondents often make the conjunction fallacy, and they tend to associate the positive characteristics with those who have a strong belief in the Christian God. For example, 92 percent of the sample make the conjunction fallacy that reflects an association between benevolence and someone who believes in the Christian God. Only three percent make the conjunction fallacy that reflects an association between benevolence and someone who has strong traditional beliefs.

For the negative characteristics, we observe the opposite pattern. Respondents consistently make the conjunction fallacy that associates the characteristic with someone who has strong traditional beliefs. For example, 87 percent of the sample associates vindictiveness with someone who has strong traditional beliefs.

We also described a scenario where the character was rich and another scenario where the character was poor. We find that for both scenarios, a large percentage of the sample does not make the conjunction fallacy. However, we also find that among those who make the conjunction fallacy, the association for both scenarios was with an individual who believed in the Christian God. Thus, to the extent that an association exists, it appears that both poverty and wealth are associated with being Christian.

For completeness, we also formally estimate whether traditional beliefs are associated with the different traits. The specification is described in detail in Appendix A.7, and the results are reported in Appendix Figure A18. Here too, we find that traditional religious beliefs tend to be associated with negative traits and tend not to be associated with positive traits.[20]

These findings complement the findings of the effects on norms and behavior that we document. The association of those holding traditional beliefs with negative traits provides a rationale for the antisocial norms towards this group, which in turn supports the antisocial behavior observed in the experiments. These results also suggest that the patterns observed in the behavioral and norm measures reflect actual beliefs held by the respondents and do not arise due to pluralistic ignorance or preference falsification.

[20] For CF results estimated relative to Christian beliefs, rather than the baseline category, refer to Appendix Figure A19.

Table 3: Conjunction Fallacy: Distribution of Responses

	Potential Responses:				*Potential Responses:*		
	Baseline Characteristic Only	*Baseline & Traditional*	*Baseline & Christian*		*Baseline Characteristic Only*	*Baseline & Traditional*	*Baseline & Christian*
Character described as:				**Character described as:**			
Liking Food	64.63	12.81	22.56				
	(47.86)	(33.45)	(41.84)				
Honest	12.24	9.75	78.01	**Dishonest**	29.45	58.32	12.24
	(32.8)	(29.69)	(41.46)		(45.62)	(49.35)	(32.8)
Benevolent	5.16	3.06	91.78	**Jealous**	14.53	82.6	2.87
	(22.15)	(17.24)	(27.5)		(35.28)	(37.95)	(16.71)
Generous	7.27	2.49	90.25	**Selfish**	21.8	68.26	9.94
	(25.98)	(15.58)	(29.69)		(41.33)	(46.59)	(29.95)
Even Tempered	31.17	6.12	62.72	**Vindictive**	10.33	87.38	2.29
	(46.36)	(23.99)	(48.4)		(30.46)	(33.24)	(14.99)
Socially Included	29.64	1.53	68.83	**Socially Excluded**	28.68	61.76	9.56
	(45.71)	(12.28)	(46.36)		(45.27)	(48.64)	(29.43)
Rich	51.05	9.56	39.39	**Poor**	43.98	5.16	50.86
	(50.04)	(29.43)	(48.91)		(49.68)	(22.15)	(50.04)
Observations:	523	523	523		523	523	523

Notes: For each scenario, we report the percentage of the sample that did not make the conjunction fallacy (i.e. *Baseline Characteristic Only*), made the conjunction fallacy with traditional beliefs (*Baseline & Traditional*), and made the conjunction fallacy with Christian beliefs (*Baseline & Christian*). Averages are reported with the standard deviation in parentheses.

6. Generality and External Validity of Findings

Having documented the prevalence of antisocial behavior, norms, and perceptions towards those holding traditional religious beliefs, we now turn to two additional questions. First, how general are these findings? Are there any subgroups for whom these effects do not exist? Answers to these questions would help us understand what can be done to prevent such behavior in the future. Second, but related, is the question of where these effects come from.

6.1. Generality within the Experimental Sample

Given the adverse social consequences of traditional religious beliefs that we identify, it is important to understand under what circumstances these negative effects are attenuated. For example, if the effects are smaller among those who are richer or more educated, then this suggests that economic development may attenuate these detrimental effects. Additionally, it is possible that the effects we estimate are not found if player 1 also holds traditional religious beliefs.

We examine these issues by testing for heterogeneous effects depending on the characteristics of player 1: whether they belong to the same ethnic group as player 2, their gender, age, whether they are from a rural or urban area, strength of Christian beliefs, strength of traditional religious belief, education, and income. Using measures of each of these characteristics, we divide the sample into two groups and estimate the effects of player 2's belief for each subsample. For some characteristics, the division is clear - e.g., male or female gender, same ethnic group or not, grew up urban or rural. For others – e.g., religious beliefs, education, income – we choose divisions to

create subsamples that are as equal as possible.[21]

As a method of summarizing the patterns across the different behavioral measures, we report the average effects across actions in the dictator game, choose-your-dictator game, and joy-of-destruction game. We standardize each outcome to have mean zero and standard deviation one and estimate the version of equation (1) with player 1 controls, while including a fixed effect for each game and clustering standard errors at the respondent level.[22]

From the estimates, which are summarized in Figure 7, a number of findings emerge. First, for all subsamples, we estimate a negative and highly significant effect of player 2's traditional religious beliefs on how prosocial player 1's behavior is. This is significant because it suggests that even educated and higher-income individuals, including those who live in the city, treat those who hold traditional religious beliefs worse. Second, we find that many of the characteristics that we might think might attenuate the documented antisocial behavior do not do so; in many cases, they magnify the effects. Individuals with more education and with higher incomes tend to have larger estimated effects, and the difference is often statistically significant.

Given the lack of evidence that economic development will ameliorate these adverse effects, the other way that the effects could be eliminated is if traditional beliefs decline. However, because of the importance of these beliefs for local political, legal, and social life, their elimination would mean a substantial weakening of these important structures, which could have detrimental effects. This puts Africans in a predicament. Traditional religions have been the foundation of society, but the introduction of Christianity and Islam have led to their demonization leading to the adverse consequences we document here. Thus, they can either abandon a religion that forms the foundation of daily life or bear the costs of continued belief.

Another important result is that we find no evidence that if player 1 has strong traditional beliefs, they tend to be relatively less antisocial towards a player 2 who holds traditional beliefs. Instead, a player 1 who has strong traditional beliefs also treats a player 2 with strong traditional beliefs less prosocially. The finding, although striking, is consistent with recent experimental findings from India showing that low-caste individuals are treated less prosocially by everyone, even others who are also of a low caste (Hoff, Kshetramade and Fehr, 2011), as well as work from Israel (Fershtman and Gneezy, 2001), in which Eastern Jews are trusted less by both by Ashkenazic players and Eastern players. As pre-specified, we explore this particular form of heterogeneity further by estimating a variant of our baseline equation (1) that includes an interaction between the traditional beliefs of players 1 and 2. The estimates are reported in Appendix Tables A19–A21. Consistent with the conclusion from Figure 7, we find no evidence that a player 1 who believes in traditional religion treats player 2s with the same beliefs better.

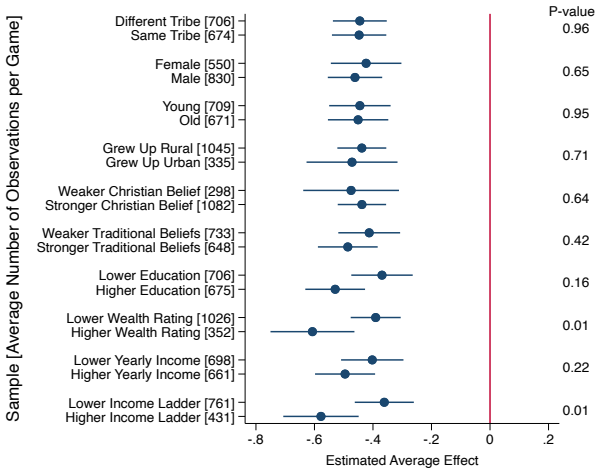
A second possibility is that other characteristics of player 2 are also important for determining the magnitude of the effects. It is possible, for example, that the antisocial behavior targeted to traditional believers is attenuated if player 2 is wealthier, more educated, or they also believe in

[21] For the continuous measures (i.e., yearly income and education), we partition the sample using the median value. For categorical measures (i.e., religious beliefs and perceived income and wealth), we choose the partition that generates the most equal groups.

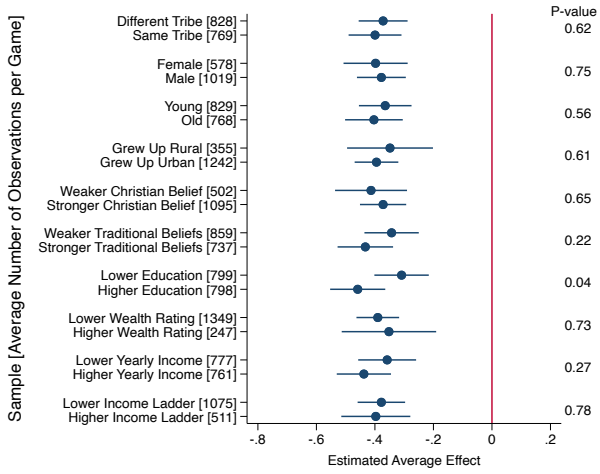
[22] The heterogeneity estimates for each game separately are reported in Appendix Figure A20, and results with player 1 fixed effects are in Appendix Figure A21.

Figure 7: Heterogeneity of Estimates by Player 1 Characteristics

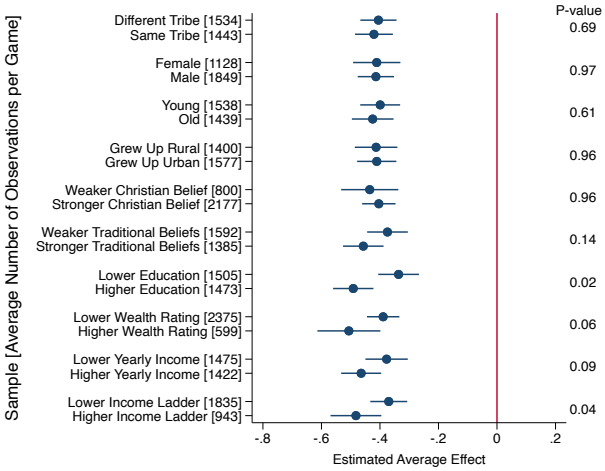
(a) Urban Sample



(b) Rural Sample



(c) Both Samples



Notes: We report the coefficient and 95% confidence intervals for the average effect of player 2's Traditional Beliefs across all games. The estimated specification is a version of equation (1) with standard errors clustered at the respondent level. We partition the sample by different player 1 characteristics. We partition the sample at the median value for continuous variables and at the value that creates the most even split for categorical variables. We report the coefficient for each partitioned subsample. The left y-axis labels specify the partitioned subsamples with the number of observations in each group in []. The right y-axis reports the p-value for the null hypothesis that the coefficients of the two samples are equal.

Christianity. The heterogeneous average effects are reported in Appendix Figure A22, for each game separately in Appendix Figure A23, and with player 1 fixed effects in Appendix Figure A24. We again find that for every subgroup examined, we estimate a negative and statistically significant effect of player 2's traditional religious beliefs. The only form of (mild) heterogeneity that we observe, which is by player 2's education, suggests that more education does not attenuate the effects but instead magnifies them. Thus, again, the estimates provide no evidence that the process of development will ameliorate the antisocial effects we are finding.

6.2. Generality Beyond the Experimental Sample

The heterogeneity analyses suggest that the effect of traditional religious beliefs on antisocial behavior is remarkably general. It is present for all subgroups of player 1 and player 2 examined. In addition, increased education or income seems to actually increase the negative consequences

of believing in traditional religions. Thus, there is no indication that the antisocial behavior is likely to disappear with economic development.

We further explore the generality and external validity of our experimental findings. If these findings are relevant more generally, we would expect a person's belief in traditional religion to be associated with lower levels of economic well-being. We check for these relationships using individual-level data from Gallup, which includes information on witchcraft beliefs and various measures of material well-being for over 45,000 people from 34 countries in sub-Saharan Africa. The estimates, which are reported in Panel A of Appendix Table A22, show that a belief in witchcraft is negatively associated with various measures of economic prosperity, including household income, per capita income, satisfaction with standard of living, perceived comfort of life given present income, and perceived quality of life. The final columns of Appendix Table A22 also present the average effect size coefficient across all of these measures.

We also check whether the heterogeneity we observed in the experiments – i.e., by level of economic development – is found more broadly. Panels B and C allow the relationship between an individual's belief in witchcraft and their measure of economic well-being to vary depending on their country's level of per capita GDP (Panel B) or primary school completion rate (Panel C).[23] We find a stronger negative relationship between a person's witchcraft belief and their economic well-being with greater economic development. The fact that we find analogous patterns in the observational data across sub-Saharan Africa, as in the experimental data from the DRC, suggests that our experimental findings might be quite general.

7. On the Origins of the Effects

We now turn to the question of whether the adoption of Christianity, which anthropological and historical accounts suggest resulted in the demonization and stigmatization of African traditional religions, explains the roots of the perceptions and behavior we have documented.

7.1. Heterogeneity by Missionary Activity: Evidence from DRC

We explore whether exposure to Christianity may explain some of the effects that we observe. An initially appealing strategy is to examine heterogeneity of player 1's behavior depending on the strength of their self-reported Christian beliefs. Stronger Christian beliefs might strengthen the effects we estimate if Christianity is the source of the antisocial perceptions, norms, and actions. It is also possible that they might weaken the effects if Christian teachings promote universal prosocial behavior.

When we look at heterogeneity depending on an individual's self-reported beliefs in Figure 7, we find that effects do not differ depending on the Christian beliefs of the participants. This is not particularly surprising since there is little variation on the extensive margin. Nearly everyone is Christian. As noted, for logistical reasons (due to the matching of participants), the urban sample only includes strong or very strong believers in Christianity, which further confounds this effect.

[23] We use the natural log of GDP per capita (in 2016) and primary school completion rates (for the most recent year available from 2010–2020). To ease interpretation, the measures are normalized to range from 0 to 1.

While our religion question is aimed at capturing both margins, it does so in a very coarse and imperfect way.

Prior to collecting the data, based on first-hand knowledge of the setting, we anticipated this difficulty and pre-registered an exercise that we felt was the best strategy for looking at heterogeneous effects depending on a person's exposure to Christianity, which was to estimate heterogeneous effects within our rural village sample by the historical exposure of the village to a foreign mission station.[24] Although Christianity has now spread to all villages in some form (all rural villages in our sample have at least one church, with an average of 3.3 churches per village), we expect locations that were exposed to foreign missions during the colonial period to have a greater intensity and depth of belief in Christianity today. For each village, we calculated the distance to the nearest colonial mission station using a map of colonial era missions from Mantnieks (1951). See Appendix Figure A25 for a map of the villages and Christian missions.

We undertake a heterogeneity analysis following the same logic as in Figure 7. We estimate equation (1) separately for two sets of villages: those closer and farther from a colonial mission station. We present the estimated average effect of the other player's traditional beliefs for the near and far groups, using multiple cutoffs ranging from 10–30 kilometers, in Figure 8.[25] We find that the historical presence of Christian missions amplifies the antisocial behavior directed towards traditional believers. For both groups, the estimated effects are present (and highly significant), but they are larger in magnitude for villages that were closer to a foreign mission station. The effects are present for both denominations, but particularly strong for Catholic missions, the most common denomination in the DRC during the colonial period.

For completeness, we also report heterogeneity estimates that use a continuous measure of a village's distance to a historical mission station. The estimates, reported in Appendix Table A23, show that our finding that antisocial behavior towards traditional believers is stronger when there was more missionary exposure is robust when using distance from foreign mission stations.[26]

One concern with our focus on mission stations is that there were other forms of missionary contact other than through mission stations. The other source of missionary influence was missionary schools, which were almost exclusively responsible for schooling during the colonial era. This is especially true for the Catholic church, which had a close relationship with the colonial government (Markowitz, 1970). We collect data on the location of Catholic and Protestant schools that existed as of 1951, taken from Ministère de l'Education Nationale et de la Nouvelle Citoyenneté (2018), and undertake the same exercise, but grouping villages into those that were close to or far from either missionary schools or mission stations.[27] The estimates are summarized in Appendix Figure A31. We observe similar patterns in these figures. Those with stronger

[24] Based on our knowledge of the setting, we felt that there would not be a relationship between the historical exposure of urban respondents' ancestral villages to missions and the reported intensity of Christian beliefs today. This is because, for those living in the city, the historical variation will be swamped by the current exposure of individuals to Christianity, which is much more pervasive and intensive in the city relative to the rural villages. Thus, as pre-specified, we did not undertake a similar exercise using our urban sample.

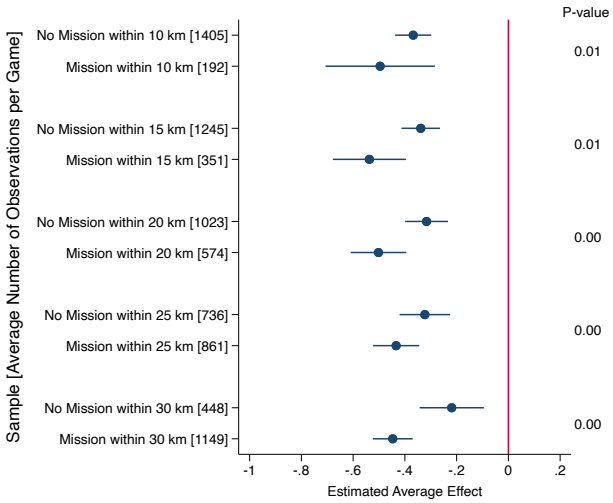
[25] For a version with player 1 fixed effects, refer to Appendix Figure A26.

[26] The distribution of denominations in our sample is shown in Appendix Figure A27. The effect by denomination is shown in Appendix Figure A28.

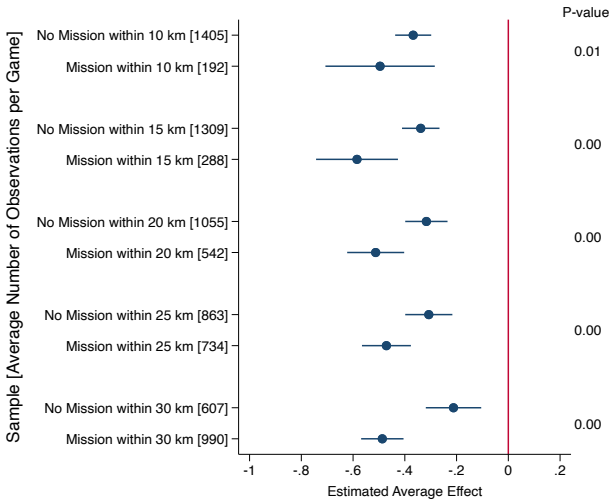
[27] Appendix Figure A29 presents the distribution of missionary schools.

Figure 8: Heterogeneity of Estimates by Historical Exposure to Christian Missions

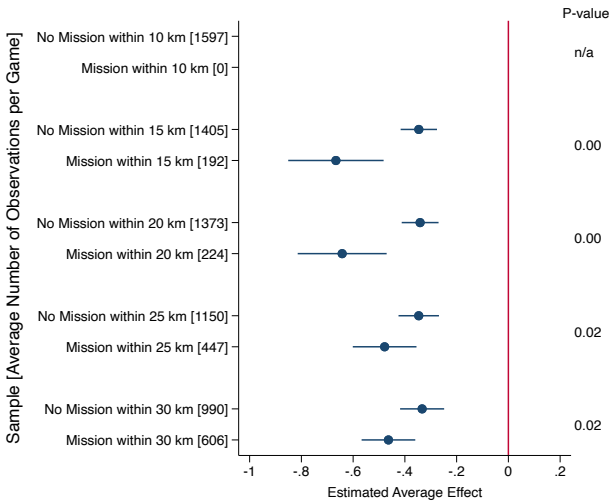
(a) Any Mission



(b) Catholic Mission



(c) Protestant Mission



Notes: We report the coefficient and 95% confidence intervals for the average effect of player 2's Traditional Beliefs across all games. The estimated specification is a version of equation (1) with standard errors clustered at the individual level. We partition the sample by different measures of proximity to Christian missions. We report the coefficients using different definitions of proximity to a Christian mission: having or not having a mission within 10, 15, 20, 25, and 30 kilometers. We report the coefficient for each partitioned subsample. The left y-axis labels specify the partitioned subsamples with the number of observations in each group in []. The right y-axis reports the p-value for the null hypothesis that the coefficients of the two samples are equal.

traditional religious beliefs are treated more negatively by individuals in villages closer to a missionary school or a mission station.[28] The estimates also show that we have now found a subsample for which the estimated effect becomes statistically insignificant (see Panel A of Appendix Figure A31). This is for villages that are more than 30 kilometers away from any missionary activity (school or mission, Catholic or Protestant). Among the participants from the four villages that were untouched, we estimate a small and insignificant effect (beta coefficient = -0.1207, p-value=0.241).

One concern is that these four villages happen to be different in other dimensions and this explains the finding. An alternative explanation is that the villages are unique because they are

[28] The effects appear to be driven by Catholic activity, which is not surprising since, due to preferential support and access from the Belgian colonial administration, most mission schools were Catholic.

far from the urban center in the region. These four villages are 49–69 kilometers from the urban center, and so they are quite remote.[29] To examine this possibility, we identify all villages in our sample that are also 49–69 kilometers from the city (there are no villages that are more than 69 kilometers from the city). This includes: (1) the four villages farther than 30 kilometers from missionary activity and (2) fifteen villages that were within 30 kilometers of missionary activity. The two sets of villages are equally remote (far from the urban center), but differ in their exposure to colonial missionaries. We then estimate equation (1) for the sample of fifteen villages, which are also remote but were exposed to missionary activity. We find that the estimated effect of the other player's traditional beliefs is negative, large in magnitude, and highly significant (beta coefficient = -0.454, p-value=0.000). Thus, among villages distant from the urban center, but exposed to missionary activity, we continue to estimate a large statistically significant effect.

It is still possible that we find an insignificant effect in the villages that were isolated from colonial missionary activity because the sample only comprises four villages. This raises the question of whether estimates using other sets of four villages, even those with colonial missionary exposure, could generate similar estimates. To test for this we take the sample of fifteen villages that are remote but were exposed to missionary activity, randomly select four villages, and estimate equation (1). We do this for all 1,365 potential combinations of four villages selected from the fifteen remote villages. The distribution of the estimates (beta coefficients and p-values) is summarized in Appendix Figure A32a. The vast majority of estimates (97.7%) are larger in magnitude than the estimate for the four non-exposed villages, and most are statistically significant (98% at the 10 percent level). We also undertake the same exercise but randomly draw 4 villages from the full set of 46 villages that were within 30 kilometers of any missionary activity (whether remote or not). As reported in Appendix Figure A32b, the distribution of estimates is very similar. In sum, the results suggest that missionary activity is an important determinant of the negative treatment of those who hold traditional beliefs. Only among those remote and unexposed villages do we find an insignificant effect.

7.2. Heterogeneity by Missionary Activity: Evidence from Across Africa

Using the Gallup data, it is possible to check whether the patterns found in our DRC sample also exist across Africa. Specifically, we test whether historical missionary activity is associated with more negative perceptions of those who practice traditional religions. The survey asks "Do witch doctors do good things or bad things to people?" with the potential responses being: bad things, both bad and good, neither good nor bad, good things. We create a variable that is increasing in the positivity of perceptions of 'witch doctors' (negative one for bad, zero for both or neither, and one for good). To measure historical missionary activity, we combine information on the location of foreign mission stations in the early 1920s from Roome (1924) with the respondent's reported district of residence, which is the finest location identifier provided. (See Appendix Figure A33 for a map showing the districts in the Gallup data and the foreign mission stations). We calculate

[29] Appendix Figure A30 provides a map of these villages along with the locations of the mission schools, mission stations, and the urban center.

the share of land in the respondent's district that is within 10, 15, 20, 25, or 30 kilometers of a mission station (Appendix Figure A34) .

We then use the following equation to estimate the respondent-level relationship between historical missionary exposure in their district of residence and their perception of traditional religious practitioners today. We estimate:

$$Perception_{id} = \gamma Missions_d + \mathbf{X}_i\mathbf{\Psi} + \mathbf{X}_d\mathbf{\Pi} + \varepsilon_{id}, \tag{4}$$

where i indexes respondents and d districts. The dependent variable $Perception_{id}$ is our survey-based measure of the positivity of one's view of practitioners of traditional religion. $Missions_d$ is the share of land in district d within a fixed distance of a mission station. $\mathbf{X}_i$ is a vector of individual-level covariates that includes age, age squared, gender, and their interactions. $\mathbf{X}_d$ is a control for district size, measured by the land area. Standard errors are clustered at the district level.

The estimates, which are reported in panel A of Table 4, show that missionary activity is associated with more negative views of practitioners of traditional religion. Although this is consistent with historical missionary activity stigmatizing traditional religions, it could also arise because of weaker beliefs in traditional religions. However, as shown in panel B, the negative association between historical missionary activity and negative perceptions of traditional religion remains (and is of a similar magnitude) when we control for whether the respondent reports believing in "witchcraft." Not surprisingly, we also find that those who report believing in traditional religion have a more positive view of it. Motivated by our experimental findings showing that even traditional believers treat other traditional believers poorly, in panel C, we report estimates that examine the relationship between beliefs about traditional religion and historical activity, separately for believers and non-believers. Consistent with our experimental findings, here too, we find that historical missionary activity also has effects among believers of traditional religion and that, if anything, the effect of missionary activity is stronger for traditional beliefs than non. Thus, in places with more historical missionary activity, even those who believe in traditional religion will hold negative views about it.

We test the robustness of this finding to the use of an alternative measure of views about traditional religion in the survey. Unlike our baseline measure, it is only available for a subset of countries, resulting in a sample of about 16,000 rather than 45,000. The question asks: "Do you agree or disagree with the following statements? Witch doctors are important members of the community." We create an indicator variable that equals one if the respondent chooses 'agree' and zero if they choose 'disagree,' with respondents who report not knowing or refusing to answer coded as missing. Despite the smaller sample size, we find the same patterns in the data as with our baseline measure (Appendix Table A24). Missionary activity is associated with more negative perceptions of traditional religion. This is true accounting for the respondent's own religious belief. And the effect is strongest for those who believe in traditional religions.

Table 4: Witchcraft Beliefs, Mission Stations, and Favorable Perception of Witch Doctors

	OLS, Dep. Var.: Favorable View of Witch Doctors: Do Bad -1; Neutral 0; Do Good 1									
	10 km Buffer		*15 km Buffer*		*20 km Buffer*		*25 km Buffer*		*30 km Buffer*	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Panel A: Missionary Exposure									
Share of land within [...] km from a mission [0-1]	-0.037***	-0.036***	-0.043***	-0.042***	-0.048***	-0.047***	-0.054***	-0.053***	-0.058***	-0.057***
	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.010)	(0.010)	(0.010)
	Panel B: Missionary Exposure and Witchcraft Belief									
Witchcraft Belief	0.409***	0.408***	0.408***	0.407***	0.408***	0.408***	0.408***	0.407***	0.408***	0.407***
	(0.021)	(0.020)	(0.021)	(0.020)	(0.021)	(0.020)	(0.021)	(0.020)	(0.021)	(0.020)
Share of land within [...] km of a mission [0-1]	-0.032***	-0.031***	-0.038***	-0.037***	-0.043***	-0.042***	-0.049***	-0.048***	-0.054***	-0.053***
	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.010)	(0.010)	(0.010)	(0.010)
	Panel C: Missionary Exposure, Witchcraft Belief, and Interaction									
Witchcraft Belief	0.409***	0.408***	0.409***	0.408***	0.409***	0.408***	0.409***	0.408***	0.409***	0.408***
	(0.021)	(0.021)	(0.021)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)
Share of land within [...] km of a mission [0-1]										
× **Witchcraft Belief = 0**	-0.021**	-0.020**	-0.024***	-0.023**	-0.027***	-0.026**	-0.031***	-0.030***	-0.035***	-0.034***
	(0.008)	(0.008)	(0.009)	(0.009)	(0.010)	(0.010)	(0.011)	(0.011)	(0.012)	(0.012)
× **Witchcraft Belief = 1**	-0.038***	-0.037***	-0.047***	-0.046***	-0.054***	-0.053***	-0.060***	-0.059***	-0.063***	-0.063***
	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.013)	(0.013)	(0.013)	(0.012)	(0.012)
Demographic Controls	N	Y	N	Y	N	Y	N	Y	N	Y
Country FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Observations	44,734	44,704	44,734	44,704	44,734	44,704	44,734	44,704	44,734	44,704
Number of Countries	33	33	33	33	33	33	33	33	33	33
Number of Clusters	387	387	387	387	387	387	387	387	387	387
Mean Dep. Var.	-0.489	-0.489	-0.489	-0.489	-0.489	-0.489	-0.489	-0.489	-0.489	-0.489
SD Dep. Var.	0.714	0.714	0.714	0.714	0.714	0.714	0.714	0.714	0.714	0.714

Notes: The table reports OLS estimates. The survey question is: *Do witch doctors do good things or bad things to people?*. The response options are "Bad" (assigned a value of -1), "Bad and Good" (assigned a value of 0) and "Good" (assigned a value of 1). An observation is an individual. All specifications include country fixed effects. *Witchcraft Belief* is an indicator variable equal to 1 if the individual answered "Yes" to the question "Do you believe in witchcraft?" and 0 if they answered "No". The witchcraft data are from Gallup (2009 and 2011, waves 4 and 6). *Demographic controls* include age, age squared, gender, and their interactions. Every specification controls for a region's share of land within [...] km of a mission [0-1]. Robust standard errors clustered at the subnational region level in (). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

7.3. Missionary Activity and Interpersonal Relations: Evidence from the Afrobarometer

Our final exercise considers the interpersonal nature of our documented effects; namely, how a person's beliefs affect how they are perceived (and therefore treated) by others. For this, we use the Afrobarometer (waves 6–9), which reports the ethnicity of the enumerator implementing the survey. One of the questions in the survey asks respondents: "What is your religion, if any?" One option is "traditional or ethnic religion." Because they question assumes the respondent only has one religion and only asks for one religion, a very small number of respondents, 1.53%, reported this. Respondents tended to choose Christianity or Islam, despite also holding traditional beliefs. Given, this a respondent choosing a traditional religion would have been exceptional and noteworthy to the enumerator and would have signalled an exceptionally strong traditional belief. Following the completion of the survey, the enumerator is asked to report a number of characteristics of the respondent, namely, their friendliness, cooperation, honesty, and whether they were at ease.

With this information, we check for two patterns in the data, confirming our findings to this point. The first is whether, conditional on observables, those who report believing in a

traditional religion are perceived more negatively by the enumerator. The second is whether this negative perception is stronger if the enumerator is from an ethnic group more heavily exposed to Christian missions during the colonial period. We check for these patterns by estimating the following equation:

$$Perception_{ij} = \beta_1 I_j^{Traditional} + \beta_2 Missions_{e(i)} + \beta_3 I_j^{Traditional} \times Missions_{e(i)} + \mathbf{X}_i \mathbf{\Psi} + \mathbf{X}_j \mathbf{\Pi} + \varepsilon_{ij} \quad (5)$$

where i indexes enumerators, j indexes respondents, and $e(i)$ the ethnicity of enumerator i. The dependent variable Perception_{ij} is an index that captures the positivity of enumerator i's perception of respondent j. The variable codes respondents' traits as being: negative (-1), neutral (0), or positive ($+1$). Because we have multiple traits, we report average effect size (AES) estimates. $I_j^{\text{Traditional}}$ is an indicator that equals one if respondent j reports their primary religion as a traditional religion, $\text{Missions}_{e(i)}$ is the share of land within the traditional territory of enumerator i's ethnic group within a given distance of a colonial mission station (measured using the same source as our prior cross-Africa analysis).[30] $\mathbf{X}_j$ denotes a vector of respondent characteristics. Standard errors are clustered at the level of the enumerator's ethnic group $e(i)$. Our primary estimate of interest is in β_1, which reflects whether those who believe in a traditional religion are viewed more negatively by enumerators, and β_3, which tells us whether this varies depending on the enumerator's ancestral exposure to colonial missionary activity.

The estimates are reported in Table 5. The odd-numbered columns report a variant of equation (5) without the interaction between the respondent's religion and colonial mission stations. We present results with different distance cutoffs (from 10 to 30 kms) to define exposure to Christian missions. The estimates show that respondents who report holding a traditional religion are viewed less positively at the end of the survey, though these point estimates are not significant. The even-numbered columns add the interaction term, reporting estimates of equation (5). We find that the lower perceptions of respondents who hold traditional beliefs are stronger when the enumerator is from an ethnic group more exposed to missionary activity during the colonial period. Thus, the estimates closely mirror the patterns from the DRC experimental data and the cross-Africa Gallup data. Those holding traditional beliefs are perceived more negatively and these perceptions tend to be stronger where there is greater exposure to Christianity.

8. Conclusion

Traditional religion within Africa is in a precarious position. Much of life – whether it be institutional, political, or cultural – is rooted in traditional religion, which provides stability and structure to society. At the same time, there are numerous accounts of these religions being stigmatized by Islam and Christianity. While the historical accounts of this are well documented, our understanding of the current situation in Africa is very limited.

We began by quantifying how traditional religion is perceived and portrayed in Christian churches. As part of a census conducted of all churches in a large city in the northern Democratic

[30] The process for matching enumerator ethnic group in the Afrobarometer to the Murdock ethnic groups is described in Appendix A.10. For maps of the Afrobarometer sample and enumerator exposure to missions refer to Appendix Figures A35 and A36.

Table 5: Enumerator Perceptions of Respondents who hold Traditional Religious Beliefs and Heterogeneity by Enumerator's Ancestral Exposure to Christian Missions

	Average Effect Size Estimates: Positive perceptions of respondents									
	10 km Buffer		*15 km Buffer*		*20 km Buffer*		*25 km Buffer*		*30 km Buffer*	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Traditional Religion	-0.038	-0.009	-0.038	-0.009	-0.038	-0.010	-0.038	-0.011	-0.038	-0.012
	(0.028)	(0.024)	(0.028)	(0.025)	(0.028)	(0.026)	(0.028)	(0.027)	(0.028)	(0.028)
Share of land within [...] km of a mission [0-1]	-0.132*	-0.155**	-0.094	-0.116**	-0.079	-0.100**	-0.066	-0.086*	-0.056	-0.076*
	(0.071)	(0.069)	(0.059)	(0.058)	(0.051)	(0.051)	(0.044)	(0.045)	(0.039)	(0.040)
Traditional Religion × **Share of land within [...] km of a mission [0-1]**		-0.516**		-0.351**		-0.256*		-0.190		-0.142
		(0.201)		(0.155)		(0.135)		(0.119)		(0.109)
Survey-Wave FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Respondent Demographics	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Enumerator Demographics	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Observations	135,970	135,970	135,970	135,970	135,970	135,970	135,970	135,970	135,970	135,970
Number of Clusters	230	230	230	230	230	230	230	230	230	230
Mean Dep. Var.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SD Dep. Var.	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

Notes: The table reports Average Effect Size (AES) estimates with robust standard errors clustered at the enumerator's ethnic group level in parentheses. The unit of observation is a survey in the Afrobarometer surveys. All specifications include survey-wave fixed effects and fixed effects for the matching source used to link enumerators' ethnicities to ethnic groups in the Murdock Ethnographic Map of Africa (Murdock, 1959). *Traditional Religion* is an indicator variable equal to 1 if the individual answered "Traditional or Ethnic religion" to the question "What is your religion, if any?" and 0 if they answered differently. The data are from Afrobarometer 6th, 7th, 8th, and 9th waves. *Respondent demographics* and *Enumerator demographics* include age, age squared, and gender. Every specification controls for an enumerator's traditional territory's share of land within [...] km of a mission [0-1]. Across specifications, the dependent variables are exit questions from the Afrobarometer surveys and measure to what extent a respondent appeared *friendly*, *cooperative*, *honest*, or *at ease* to an enumerator. The dependent variables are -1 (negative), 0 (neutral) to 1 (positive) categorical variables. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Republic of the Congo, we recorded and digitized sermons from the churches. Using multiple methods, we found that traditional religion was commonly discussed within Churches of all denominations. We also found that the sentiment is overwhelmingly negative. We found the same patterns using a cross-Africa sample of sermons from seven major English-speaking cities.

In rural and urban locations in the DRC, we then implemented experiments and surveys that measured actions, norms, and perceptions of those who held traditional beliefs. We found that across all experiments, participants chose actions that were less beneficial for the other player if they had strong traditional religious beliefs. These effects were remarkably universal. They were found in all games and were present regardless of a player's own belief in traditional religious beliefs, Christian beliefs, gender, age, or their economic well-being.

We found that norms and perceptions align closely with the behavior we observe. If a participant's partner held strong traditional beliefs, acting prosocially towards them was perceived as being socially unacceptable, while acting antisocially was seen as acceptable. A similar pattern emerged for perceptions. Traditional religious beliefs (and those who hold them) are associated with negative traits like vindictiveness, jealousy, selfishness, dishonesty, and being a social outcast. They are not associated with positive traits like benevolence, generosity, honesty, being even-tempered, and being socially included.

We then explored the generality of our experimental findings for the rest of the African continent. Using survey data from approximately 50,000 individuals from 34 sub-Saharan African countries, we found the patterns in the data mirrored our experimental findings. There is a negative and significant relationship between a respondent's belief in 'witchcraft' and their economic well-being. Consistent with the heterogeneous effects found in the experiments, we

find that the negative relationship is stronger in countries that have either higher education or per capita GDP.

The final exercise we undertook aimed to check whether, consistent with historical accounts, the antisocial effects we find might have their roots in the introduction of Christianity. We find that consistent with this, ethnographic accounts and folklore data show a much more positive perception of traditional religion than we observe today. Within our experimental setting, we find that the antisocial effects are significantly stronger for villages with greater colonial exposure to Christian missions. A similar pattern is also found across the continent. We observe a stronger negative relationship between witchcraft beliefs and economic well-being in locations that had more colonial missionary activity.

Overall, our study provides clear and consistent evidence of the stigmatization of those who hold traditional religious beliefs. Given that large proportions of the population across the African continent—and much of the world—continue to hold traditional religious beliefs (we estimate this to be 48% of the world's non-OECD population), this is an important finding. It also suggests the importance of legal or institutional policies that minimize these effects to the extent possible. We view this as an important and pressing area of future research.

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Online Appendix for

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(Not for Publication)

10 December 2025

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Contents

1 Introduction **1**

2 Traditional Religious Beliefs in the DRC, Across Africa, and Globally **6**
2.1 Traditional Religion in the DRC 7

3 Perceptions of Traditional Religion **10**
3.1 Perceptions of Traditional Religion Historically and Today 10
3.2 Perception of Traditional Religion in Churches Today: Evidence from Sermons . . . 11

4 Behavior Towards Those Holding Traditional Religious Beliefs **15**
4.1 Experimental Design 17
4.2 Empirical Results 18

5 Social Norms and Perceptions of Those Holding Traditional Religious Beliefs **21**
5.1 Social Norms 21
5.2 Perceptions of those with Strong Traditional Religious Beliefs 26

6 Generality and External Validity of Findings **28**
6.1 Generality within the Experimental Sample 28
6.2 Generality Beyond the Experimental Sample 30

7 On the Origins of the Effects **31**
7.1 Heterogeneity by Missionary Activity: Evidence from DRC 31
7.2 Heterogeneity by Missionary Activity: Evidence from Across Africa 34
7.3 Missionary Activity and Interpersonal Relations: Evidence from the Afrobarometer 36

8 Conclusion **37**

References **39**

Appendix A Appendix Materials **A5**
A.1 Descriptive Statistics A5
A.2 Church Sermon Analysis in DRC A8
A.3 Church Sermon Analysis in Six African cities A13
A.4 Data Collection and Summary Statistics A17
A.5 Additional Game Results A21
A.6 Additional Norm Results A29
A.7 Conjunction Fallacy Scenarios and Additional Estimates A36
A.8 Generality and External Validity of Findings A42
A.9 Heterogeneity by Christian Exposure A51
A.10 Cross-Africa Analyses A58
A.10.1 Gallup Data A58
A.10.2 Afrobarometer Data A62

Appendix References **A65**

Appendix S Supplementary Tables and Figures (Not for publication) **S1**
S.1 Robustness for Behavioral Games Estimates S1
S.2 Robustness for Social Norms Estimates S8

List of Tables

1 Experimental Game Estimates . . . 20
2 Effect of Player 2's Traditional Beliefs on How Appropriate to Choose Player in CYD 25
3 Conjunction Fallacy: Distribution of Responses . . . 28
4 Witchcraft Beliefs, Mission Stations, and Favorable Perception of Witch Doctors . . 36
5 Enumerator Perceptions of Respondents who hold Traditional Religious Beliefs and Heterogeneity by Enumerator's Ancestral Exposure to Christian Missions . . . 38
A1 Summary of the Cross-Africa Sample of Sermons . . . A13
A2 Summary Statistics . . . A19
A3 Implementation Differences between Urban and Rural Sample . . . A19
A4 Correlates of Traditional Beliefs . . . A20
A5 Dictator Game Estimates . . . A21
A6 Choose Your Dictator Game Estimates . . . A22
A7 Joy of Destruction Game Estimates . . . A22
A8 Joy of Destruction Game Estimates: Chose to Increase . . . A23
A9 Joy of Destruction Game Estimates: Chose to Decrease . . . A23
A10 Joy of Destruction Game Estimates: Chose to do Nothing . . . A24
A11 Dictator Game Estimates: Sample of Respondents Considered Honest about their Beliefs . . . A26
A12 Choose Your Dictator Game Estimates: Sample of Respondents Considered Honest about their Beliefs . . . A27
A13 Joy of Destruction Game Estimates: Sample of Respondents Considered Honest about their Beliefs . . . A28
A14 DG Appropriate to Send [...] CF . . . A30
A15 Effect of Player 2's Traditional Beliefs on How Appropriate to Choose Player in CYD A31
A16 JOD Appropriate to Increase . . . A33
A17 JOD Appropriate to do Nothing . . . A34
A18 JOD Appropriate to Decrease . . . A35
A19 DG Estimates with Interactions Between Player 1's Traditional Beliefs and Player 2's Traditional Beliefs . . . A42
A20 CYD Estimates with Interactions Between Player 1's Traditional Beliefs and Player 2's Traditional Beliefs . . . A43
A21 JOD Estimates with Interactions Between Player 1's Traditional Beliefs and Player 2's Traditional Beliefs . . . A44
A22 Witchcraft Beliefs and Economic Well-being . . . A50
A23 Heterogeneity by Village-Level Exposure to Christianity . . . A55
A24 Witchcraft Beliefs, Mission Stations, and Importance of Witch Doctors . . . A60
S1 DG Estimates: Measuring Traditional Beliefs Using Indicator Variables for Each Category . . . S4
S2 CYD Estimates: Measuring Traditional Beliefs Using Indicator Variables for Each Category . . . S5
S3 JOD Estimates: Measuring Traditional Beliefs Using Indicator Variables for Each Category . . . S6
S4 Choose Your Dictator Game: Logit Estimates . . . S7
S5 DG Appropriate to Send [...] CF: Measuring Traditional Beliefs Using Indicator Variables for Each Category: Urban Sample . . . S14
S6 DG Appropriate to Send [...] CF: Measuring Traditional Beliefs Using Indicator Variables for Each Category: Rural Sample . . . S15

S7 DG Appropriate to Send [...] CF: Measuring Traditional Beliefs Using Indicator Variables for Each Category: Both Samples . . . S16
S8 CYD Appropriate to Choose Player Estimates: Measuring Traditional Beliefs Using Indicator Variables for Each Category . . . S17
S9 JOD Appropriate to [...]: Measuring Traditional Beliefs Using Indicator Variables for Each Category . . . S18
S10 DG Appropriate to Send [...] CF: Interaction Between Player 1's Traditional Beliefs and Player 2's Traditional Beliefs: Urban Sample . . . S19
S11 DG Appropriate to Send [...] CF: Interaction Between Player 1's Traditional Beliefs and Player 2's Traditional Beliefs: Urban Sample . . . S20
S12 DG Appropriate to Send [...] CF: Interaction Between Player 1's Traditional Beliefs and Player 2's Traditional Beliefs: Rural Sample . . . S21
S13 DG Appropriate to Send [...] CF: Interaction Between Player 1's Traditional Beliefs and Player 2's Traditional Beliefs: Rural Sample . . . S22
S14 DG Appropriate to Send [...] CF: Interaction Between Player 1's Traditional Beliefs and Player 2's Traditional Beliefs: Both Samples . . . S23
S15 DG Appropriate to Send [...] CF: Interaction Between Player 1's Traditional Beliefs and Player 2's Traditional Beliefs: Both Samples . . . S24
S16 CYD Appropriate to Choose Player: Interaction Between Player 1's Traditional Beliefs and Player 2's Traditional Beliefs . . . S25
S17 JOD Appropriate to Increase: Interaction Between Player 1's Traditional Beliefs and Player 2's Traditional Beliefs . . . S26
S18 JOD Appropriate to do Nothing: Interaction Between Player 1's Traditional Beliefs and Player 2's Traditional Beliefs . . . S27
S19 JOD Appropriate to Decrease: Interaction Between Player 1's Traditional Beliefs and Player 2's Traditional Beliefs . . . S28

List of Figures

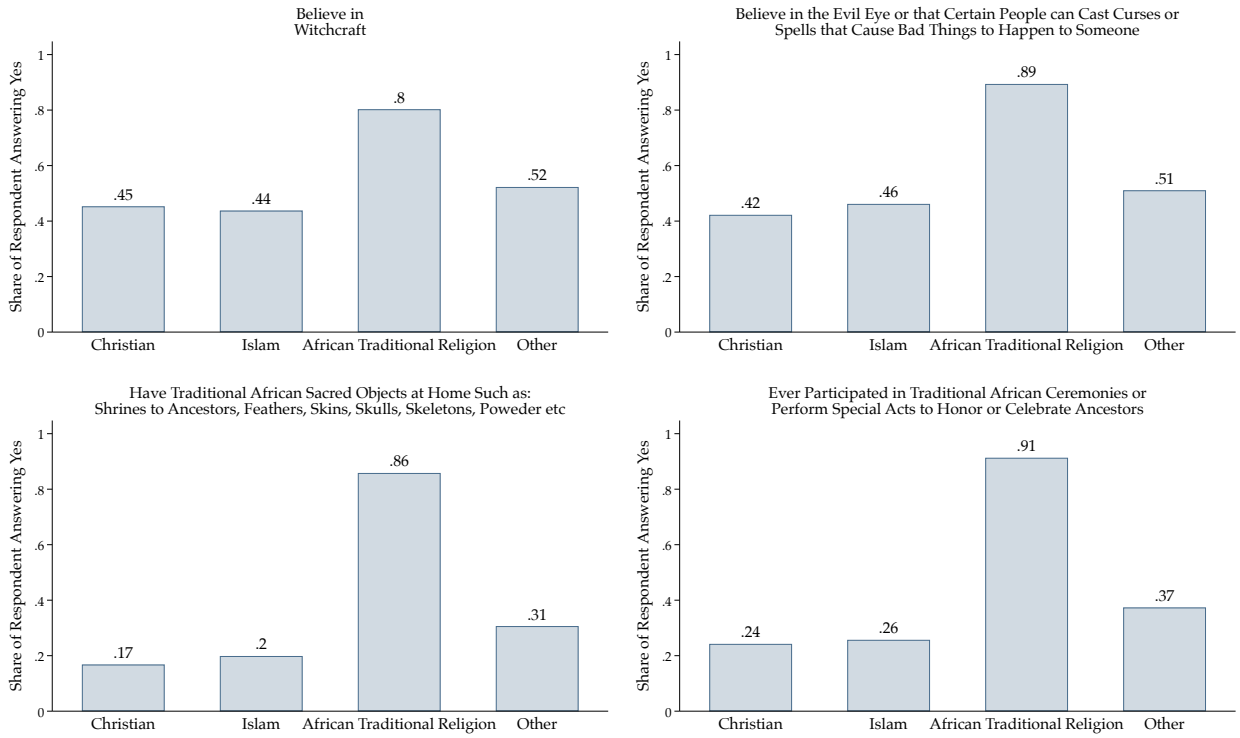
1 Share of Traditional Believers Across Countries . . . 7
2 Witchcraft Beliefs in sub-Saharan Africa . . . 8
3 Topics Mentioned and Topic Sentiment as Recorded by Enumerator . . . 13
4 Topic Sentiment as Coded by LlaMa and ChatGPT . . . 14
5 Effect of Player 2's Traditional Beliefs on How Appropriate Choices are in the DG . . . 24
6 Effect of Player 2's Traditional Beliefs on How Appropriate Choices are in JOD . . . 25
7 Heterogeneity of Estimates by Player 1 Characteristics . . . 30
8 Heterogeneity of Estimates by Historical Exposure to Christian Missions . . . 33
A1 Main Religious Beliefs and Practices Associated with African Traditional Religions in Pew Data: Christians, Muslims, ATR, and Others . . . A5
A2 Perceived Prevalence of Traditional Religious Beliefs . . . A6
A3 Knowledge of Traditional Religious Beliefs of Others . . . A7
A4 Churches in the Urban Location in the DRC . . . A10
A5 Denominations Present in the DRC Sample of Sermons . . . A10
A6 Topic Mention by Analysis Method . . . A11
A7 Topic Sentiment by Analysis Method . . . A12
A8 Topic Mention and Sentiment by Denomination and Method . . . A12
A9 Denominations Present in the Cross-Africa Sample of Sermons . . . A15
A10 Topics Mentioned as Coded by LlaMa and ChatGPT . . . A15
A11 Topic Sentiment as Coded by Llama and ChatGPT . . . A16
A12 Topic Sentiment by Denomination and Method . . . A16

A13 Map of DRC showing Sampled Territory . . . A18
A14 Map of Territory, Capital, and Sampled Villages . . . A18
A15 Enumerators' Estimation of Respondents' Honesty regarding Traditional Beliefs . . A25
A16 Effect of Player 2's Traditional Beliefs on How Appropriate Choices are in the DG . A29
A17 Effect of Player 2's Traditional Beliefs on How Appropriate Choices are in JOD . . . A32
A18 Conjunction Fallacy Estimates . . . A40
A19 Conjunction Fallacy Estimates: Effect of Traditional Beliefs Relative to Christian Beliefs . . . A41
A20 Heterogeneity of Estimates by Player 1 Characteristics and by Game . . . A45
A21 Heterogeneity of Estimates by Player 1 Characteristics: With Player 1 Fixed Effects . A46
A22 Heterogeneity of Estimates by Player 2 Characteristics . . . A47
A23 Heterogeneity of Estimates by Player 2 Characteristics and by Game . . . A48
A24 Heterogeneity of Estimates by Player 2 Characteristics: With Player 1 Fixed Effects . A49
A25 Catholic and Protestant Missions and Rural Sample . . . A51
A26 Heterogeneity of Estimates by Player 1's Exposure to Christian Missions: With Player 1 Fixed Effects . . . A52
A27 Religious Denominations, by Sample . . . A53
A28 Heterogeneity of Estimates by Player 1 Characteristics: Religious Denomination . . A54
A29 Catholic and Protestant Colonial Schools and Rural Sample . . . A56
A30 Remote Exposed and Remote Unexposed Villages . . . A56
A31 Heterogeneous Effects by Historical Exposure to Nearest Colonial School or Mission A57
A32 Distribution of Effects for Random Sets of 4 Villages . . . A57
A33 Regions Surveyed in Gallup & Catholic and Protestant Missions . . . A59
A34 Distribution of Gallup Subnational Regions' Area within [XX] km of a Mission . . . A61
A35 Regions Surveyed in Afrobarometer, Enumerators' Traditional Territories, & Catholic and Protestant Missions . . . A63
A36 Afrobarometer Enumerators' Share of Traditional Territory Close to a Mission . . . A64
S1 Robustness: Dictator Game . . . S1
S2 Robustness: Chose Your Dictator Game . . . S2
S3 Robustness: Joy of Destruction Game . . . S3
S4 Robustness: DG Appropriate to Send CF 100 to Player 2 . . . S8
S5 Robustness: DG Appropriate to Send CF 1,000 to Player 2 . . . S9
S6 Robustness: CYD Appropriate to Choose Player . . . S10
S7 Robustness: JOD Appropriate to Increase . . . S11
S8 Robustness: JOD Appropriate to Decrease . . . S12
S9 Robustness: JOD Appropriate to do Nothing . . . S13

Appendix A. Appendix Materials

A.1. Descriptive Statistics

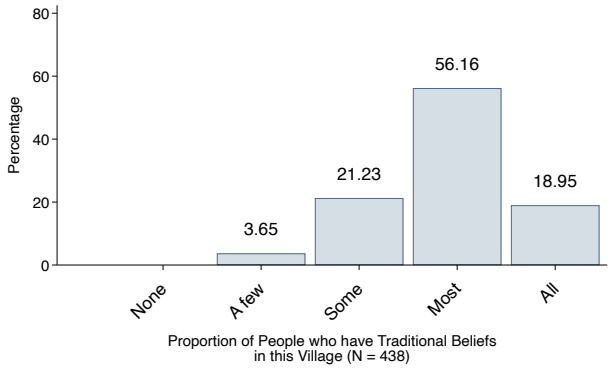
Figure A1: Main Religious Beliefs and Practices Associated with African Traditional Religions in Pew Data: Christians, Muslims, ATR, and Others



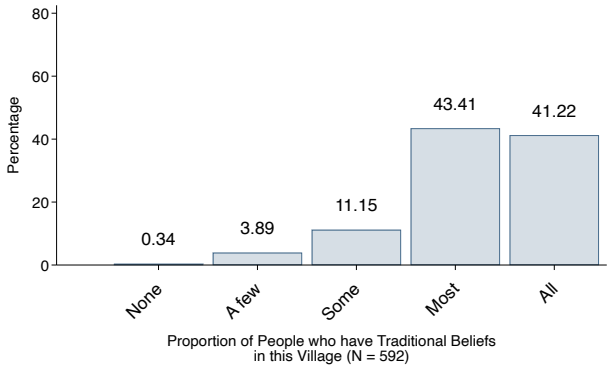
Notes: The data are from the Pew Research Center: Religion and Public Life (2009), conducted in 19 African countries, with a total of 25,091 observations. Respondents who answered "Don't know" or "Refused" are treated as missing, accounting for less than 2 – 5% of observations across all variables. The top panels display the share of respondents affirming beliefs in witchcraft or in the "evil eye" or that certain people can cast curses or spells that cause bad things to happen to others. The bottom panels show the share of respondents who report having African sacred objects at home or participating in traditional African ceremonies.

Figure A2: Perceived Prevalence of Traditional Religious Beliefs

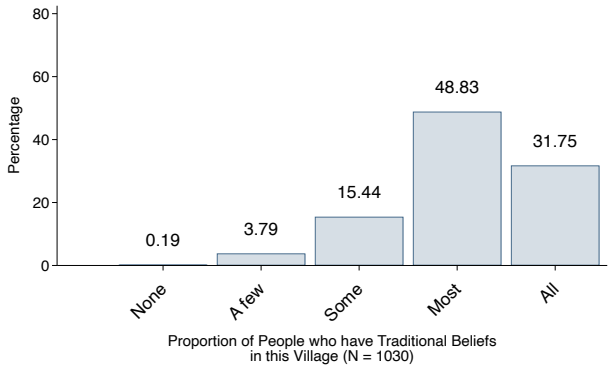
(a) Urban Sample



(b) Rural Sample



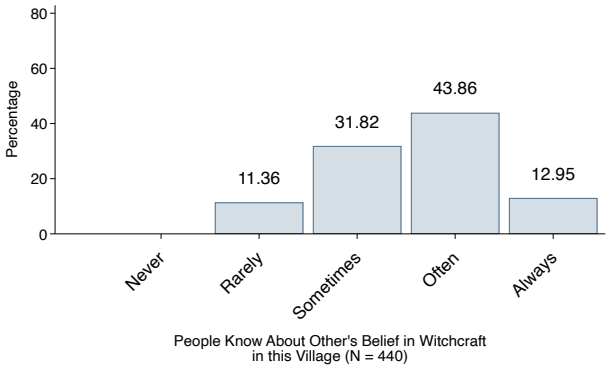
(c) Both Samples



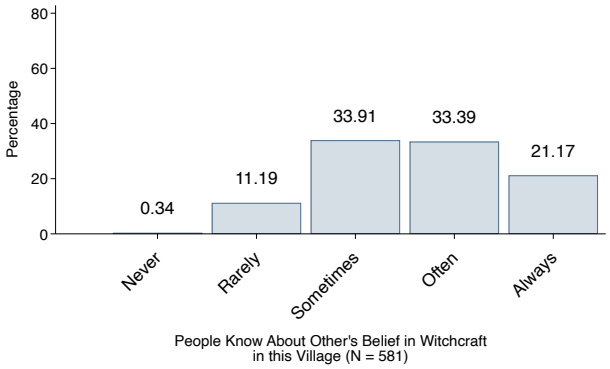
Notes: The histograms show the distribution of responses to the question: "How many people in [this city / this village] believe in witchcraft?" The response options are: 'none', 'a few', 'some', 'most', and 'all'. Panel A2a shows the distribution for the urban sample, panel A2b for the rural sample, and panel A2c for both samples.

Figure A3: Knowledge of Traditional Religious Beliefs of Others

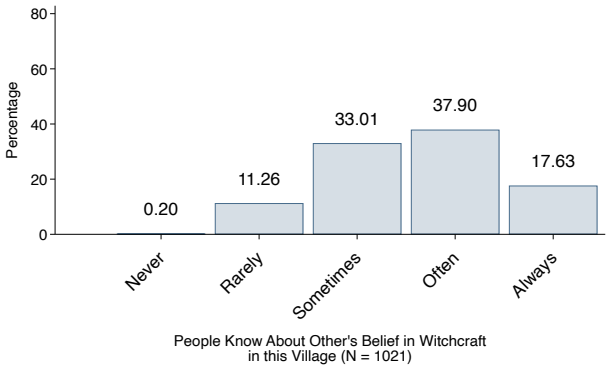
(a) Urban Sample



(b) Rural Sample



(c) Both Samples



Notes: The histograms show the distribution of responses to the question: "Do people know about the traditional beliefs of others?" The response options are: 'never', 'rarely', 'sometimes', 'often', and 'always'. Panel A3a shows the distribution for the urban sample, panel A3b for the rural sample, and panel A3c for both samples.

A.2. Church Sermon Analysis in DRC

The sermons were analyzed with ChatGPT 4o and LlaMa 3.2 (the version with 3.21 billion parameters). Both ChatGPT and Llama were run locally using the API. While ChatGPT was run through Python, LlaMa was run through Ollama and Docker. The procedures to analyze each sermon were slightly different for each platform given the differences in each model. The evaluation of the sermons and topics followed the zero-shot strategy (no additional training before evaluating).

The steps for ChatGPT 4o were:

1. Define topics and variants.
2. Define System Prompt:`You are an information extractor. Your task is to return **only** a valid JSON object (no explanations, no markdown, no code block). The object should describe whether the topic + [paste topic and keywords] + is mentioned and the sentiment in a French sermon.`
3. Define Prompt: `Respond with: "mention": true or false, "mention_why": "short explanation...", "sentiment": "very negative" | "negative" | "neutral" | "positive" | "very positive", "sentiment_why": "short explanation..."`
4. Setup: define the model (gpt-4o), set the temperature to 0, define roles (system and user).
5. Iterate through each topic within each sermon individually with the given instructions. Finally, return a csv file with the analysis.

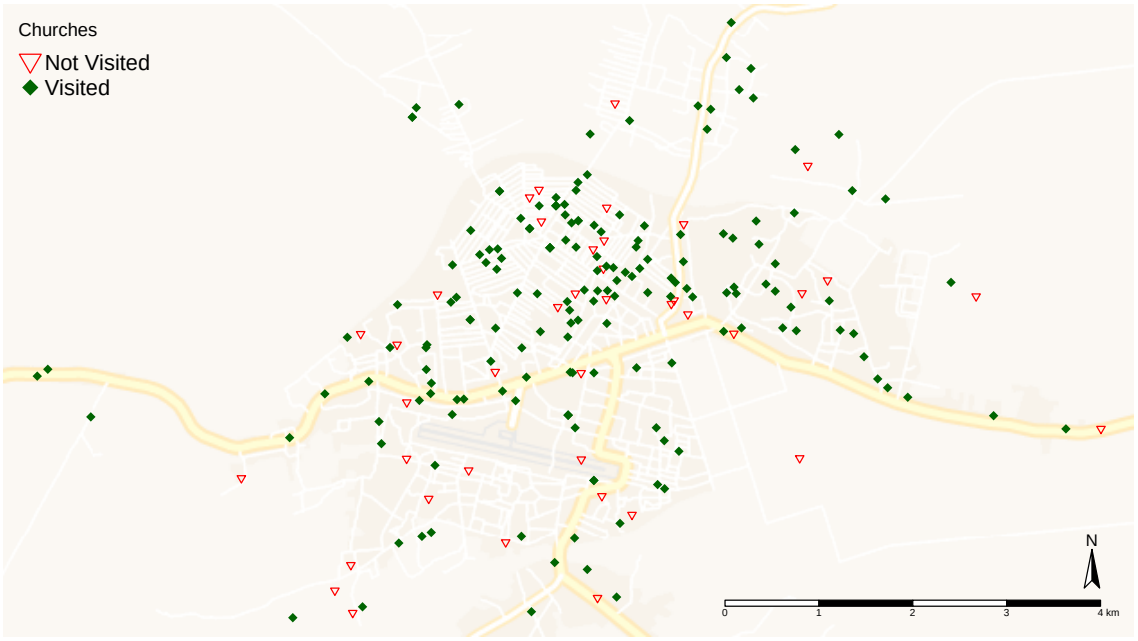
For LlaMa 3.2 (3.21B) the steps were:

1. Setup: For all tests we set a seed and set the temperature parameter to 0 to reduce variation to enhance reliability and reproducibility.
   (a) Set a seed (120).
   (b) Set the temperature equal to 0.
   (c) System Prompt: `You are a sermons analyzer in French. However, you will always answer in English.`
2. Prompt: `Read this sermon` + paste sermon + leave a few lines in blank + `Indicate in English whether the priest mentioned [topic] (keywords). If mentioned, indicate whether overall the sentiment towards [topic] (keywords) was very positive, positive, neutral, negative, or very negative way. Iterate step 2 for each topic for each sermon.`
3. In Llama, sermons exceeding 4500 words had to be analyzed in two or three separate prompts given the limited token context window and the length of the sermons, which had 4286 words on average.

The terms used to used to identify bokoko, witchcraft, and witchdoctors where as follows:

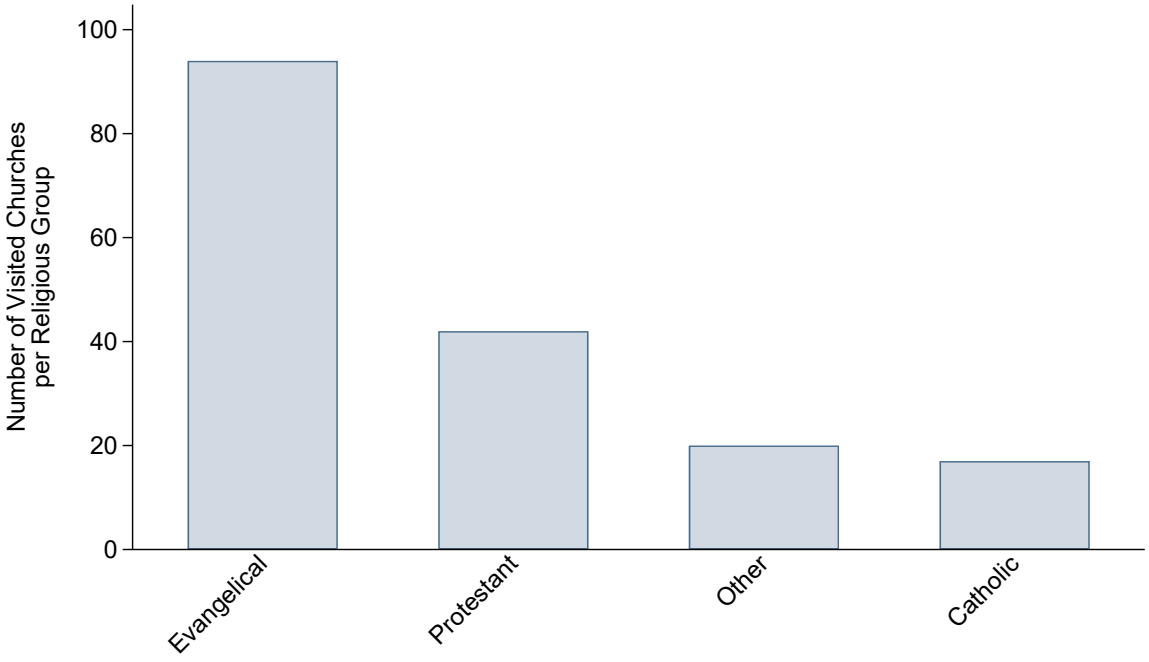
- **Bokoko:** bokoko, pouvoir coutumier (customary power), pouvoir traditionel (traditional power), la coutume (custom), la tradition (tradition).
- **Kindoki:** kindoki, sorcellerie, la sorciere, la sorcellerie, une sorciere, les sorciers, des sorciers, est sorcier.
- **Witchdoctors:** witchdoctors, tradipraticiens, le grigis, dit gris-gris.

Figure A4: Churches in the Urban Location in the DRC



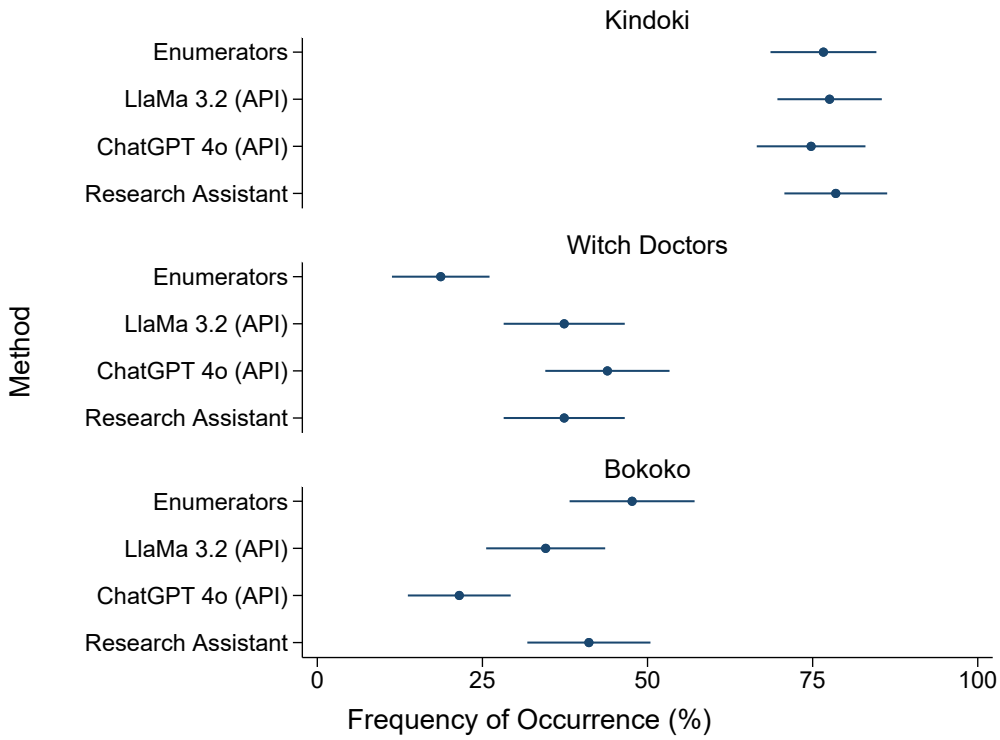
Notes: The figure presents the location of churches in the urban area based on our church census. Green diamonds are churches from which we collected sermon data. Red triangles are churches from which we did not collect sermon data.

Figure A5: Denominations Present in the DRC Sample of Sermons



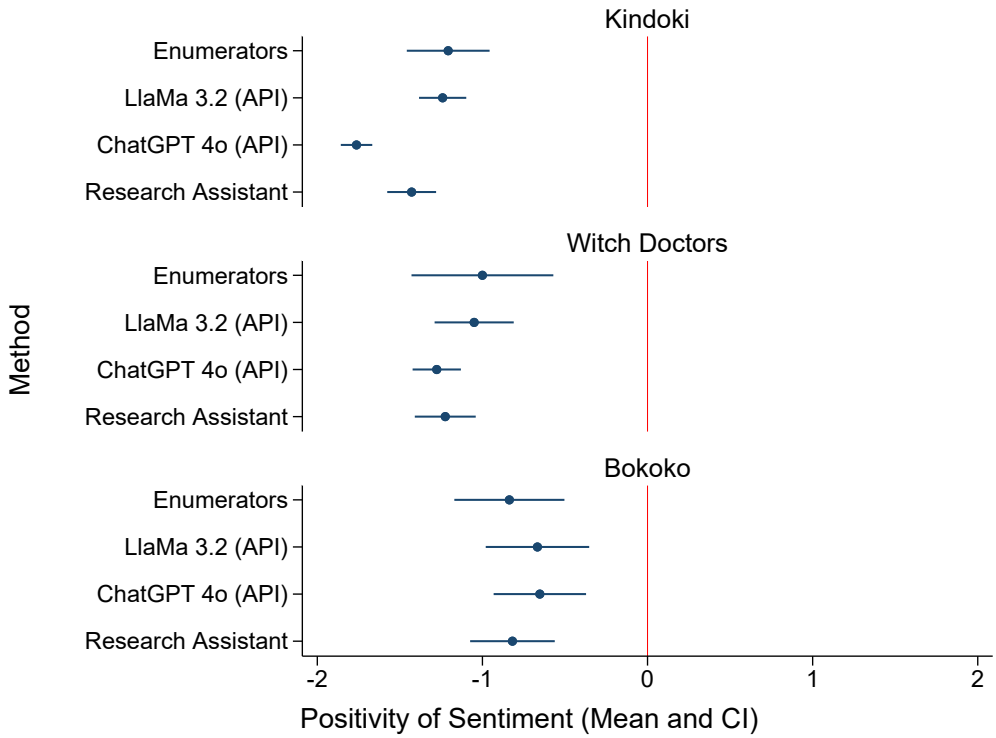
Notes: This figure presents the denominations present in the sermon sample. Other churches include: Branham, Kimbangu, Neo-Apostalic, and Jehovah's Witness.

Figure A6: Topic Mention by Analysis Method



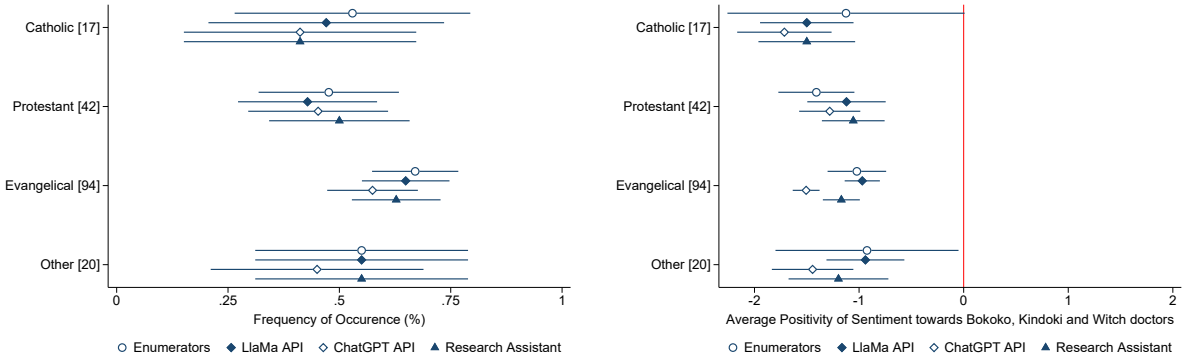
Notes: The figure presents the frequency with which a topic is mentioned based on LLM coding – LlaMa 3.2 and ChatGPT 4o – as well as enumerator and research assistant coding. The coding varies from very negative (-2) to very positive (2). This data corresponds to the corpus of sermons that were translated (n=107) from the DRC sample.

Figure A7: Topic Sentiment by Analysis Method



Notes: The figure presents the sentiment with which a topic is mentioned in a sermon based on LLM coding – LlaMa 3.2 and ChatGPT 4o – as well as enumerator and research assistant coding. This data corresponds to the corpus of sermons that were translated (n=107) from the DRC sample.

Figure A8: Topic Mention and Sentiment by Denomination and Method



Notes: The figure presents the share of sermons where the topics of interest – witchcraft, bokoko, witch doctor – are mentioned (panel a) and the average sentiment (panel b) by denomination and coding method. The coding varies from very negative (-2) to very positive (2). This is based on LLM coding – LlaMa 3.2 and ChatGPT 4o – as well as enumerator and research assistant coding. This data corresponds to the corpus of sermons from the full (n=173) DRC sample.

A.3. Church Sermon Analysis in Six African cities

We analyzed 187 sermons obtained from the replication files of "From Pews to Politics" (McClendon and Riedl, 2019). After an initial screening, 6 sermons were excluded because they were incomplete or represented a summary of a sermon rather than a full transcription. The final dataset covers six urban centers across sub-Saharan Africa: Accra (Ghana), Lusaka (Zambia), Kampala (Uganda), Lagos (Nigeria), Nairobi (Kenya), and Johannesburg (South Africa). Table A1 provides an overview of the sample. On average, the Nairobi sermons are the longest, with an average length of 4,459 words, while the shortest are from Kampala, averaging 1,862 words. Figure A9 presents the denominations represented in the sample.

Table A1: Summary of the Cross-Africa Sample of Sermons

City	Country	Number of Sermons	Year of Collection	Average Number of Words
Accra	Ghana	10	2017	2,955
Lusaka	Zambia	5	2017	3,110
Kampala	Uganda	11	2017	1,862
Lagos	Nigeria	10	2017	3,320
Nairobi	Kenya	99	2020	4,459
Johannesburg	South Africa	52	2016	3,137
Total		187		3,761

To identify terminology associated with African Traditional Religions (ATR), we employed an iterative procedure. First, we used large language models to generate city-specific candidate terms. Second, we expanded these lists by identifying semantically related terms using ConceptNet (Speer et al., 2016). Third, running the LLM-based analysis on the sermons yielded additional candidate terms, which were retained if contextual analysis of the surrounding paragraph indicated relevance.[31] Following this process, all sermons were re-analyzed to ensure that no terms were missed during the first pass.

The steps for ChatGPT 4o were:

1. Define topics and variants (specific to each city).
2. Define System Prompt: `You are an information extractor. Your task is to return **only** a valid JSON object (no explanations, no markdown, no code block). The object should describe whether the topic + [paste topic and keywords] + is mentioned and the sentiment towards + [topic] + in each sermon.`
3. Define Prompt:`Respond with: "mention": true or false, "mention_why": "short explanation...", "sentiment": "very negative" | "negative" | "neutral" | "positive" | "very positive", "sentiment_why": "short explanation..."`
4. Setup: define the model (gpt-4o), set the temperature to 0, define roles (system and user).

[31] For example, in the phrase: "How can a witch doctor give power to a great man of god if Satan is under your feet, and witch doctors are far down Satan, do you know how far under your feet are the [not English]? The ritualists?" the term *ritualist* appeared for the first time and was therefore added to the dictionary of terms.

5. Iterate through each topic within each sermon individually with the given instructions. Finally, return a csv file with the analysis.

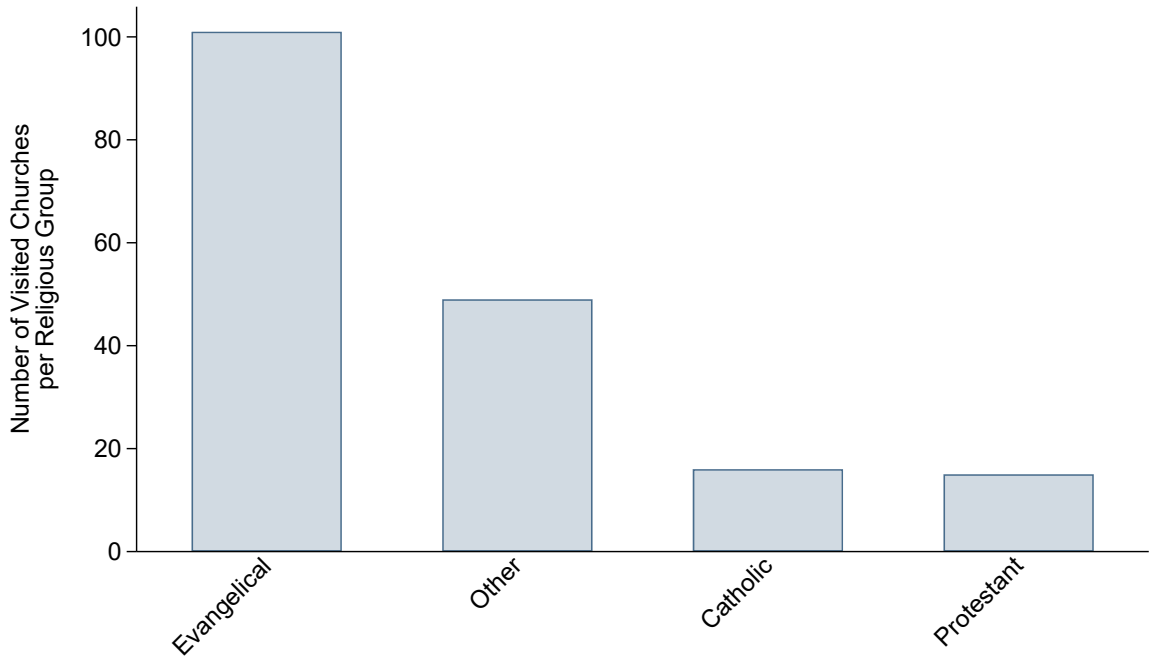
For LlaMa 3.2 (3.21B) the steps were:

1. Setup: For all tests we set a seed and set the temperature parameter to 0 to reduce variation to enhance reliability and reproducibility.
   (a) Set a seed (120).
   (b) Set the temperature equal to 0.
   (c) System Prompt: You are a sermons analyzer.
2. Prompt: `Read this sermon` + paste sermon + leave a few lines in blank + `Indicate whether the sermon mentioned` + [topic] (keywords). `If mentioned, indicate whether overall the sentiment towards` + `[topic] (keywords)` + `was very positive, positive, neutral, negative, or very negative way. Iterate step 2 for each topic for each sermon.`
3. In Llama, sermons exceeding 4500 words had to be analyzed in two or three separate prompts given the limited token context window and the length of the sermons.

The terms used to identify African Traditional Religions (ATR) in each city are as follows:

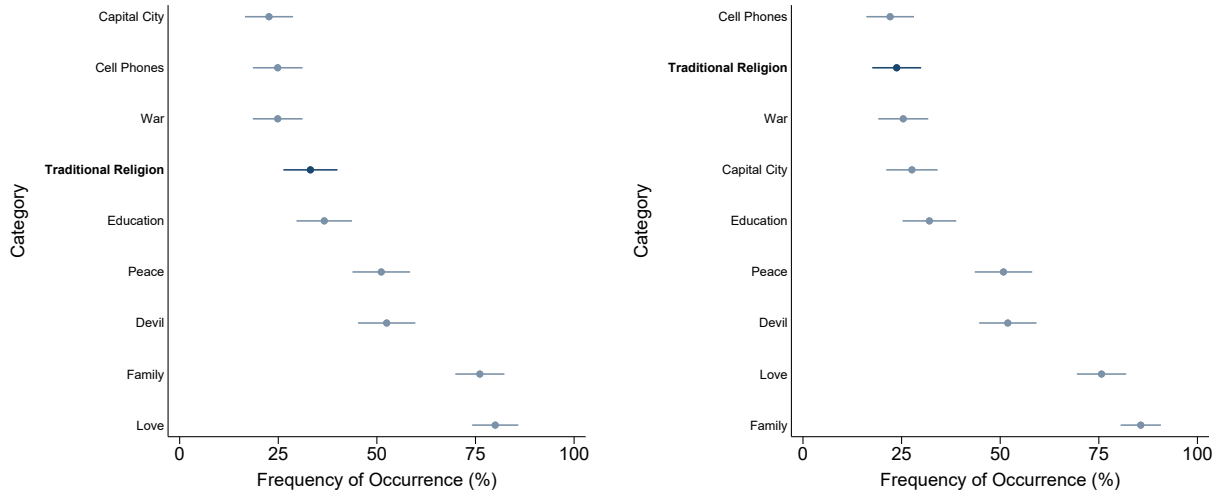
- **Accra**: commercial prophet, witch, Abosom, Nana, Komfo, shrine, fetish, juju, witchcraft, ancestral spirits, Tigare, idol worship, fetish priest, ancestral worship, juju power, traditional healer, Nananom Nsamanfo, customs, traditional ways, Juju, sika duro, juju man, oracle, and diviner.
- **Kampala**: Lubaale, Mandwa, Emandwa, Obusambwa, Amasamooza, witch doctors, ancestral spirits, cults, traditional power, evil spirits, Obuwangwa, sorcery, spells, witchcraft, witch doctor, spirit medium, and traditional doctor.
- **Lagos**: darkness, witchcraft, evil covenant, diabolic powers, ancestral curse, spiritual bondage, ancestors, customs, Orun, Orisha, Babalawo, Juju, Ogbanje, Dibia, Ayelala, Ogun, Shango, Eshu, idol worship, native doctor, and juju priest.
- **Lusaka**: darkness, black power, traditional healer, witch doctor, witchcraft, evil charms, Ng'anga, Mfumu, Chikondi, Ziwanda, traditional medicine, ancestral worship, Maambo a kale, ancestors, and traditional heritage.
- **Johannesburg**: ancestral worship, idols, curse, curses, calling of the ancestors, traditional healer, witchcraft, witch doctor, Sangoma, old ways, witch, Izinyoka, Umuthi, spirit possession, customary rituals, customs, old people's ways, Tikoloshe, umoya omubi, and izulu lamabhadi.
- **Nairobi**: witchcraft, witch doctor, totem, genie, sorcerers, magicians, curse, traditional spirits, healing cults, dark world, darkness, dark hours, Laana ya mababu, false churches, mila na desturi, ritualist, traditional healer, and bewitch.

Figure A9: Denominations Present in the Cross-Africa Sample of Sermons



Notes: This figure presents the denominations present in the cross-Africa sermon sample. Other churches include: Non-denominational, Inter-denominational, Swedenborgian and not determined. The procedure to determine the denomination of the churches was as follows: for some sermons, the data was received in folders already classified by denominations. For sermons for which this was not the case, we first determined if the file's name or header of the sermon included the denomination. Finally, for the remaining sermons, we looked up the churches online given that for most sermons the name and location of the churches were included in the files name. It was not possible to determine the denomination of nine churches.

Figure A10: Topics Mentioned as Coded by LlaMa and ChatGPT

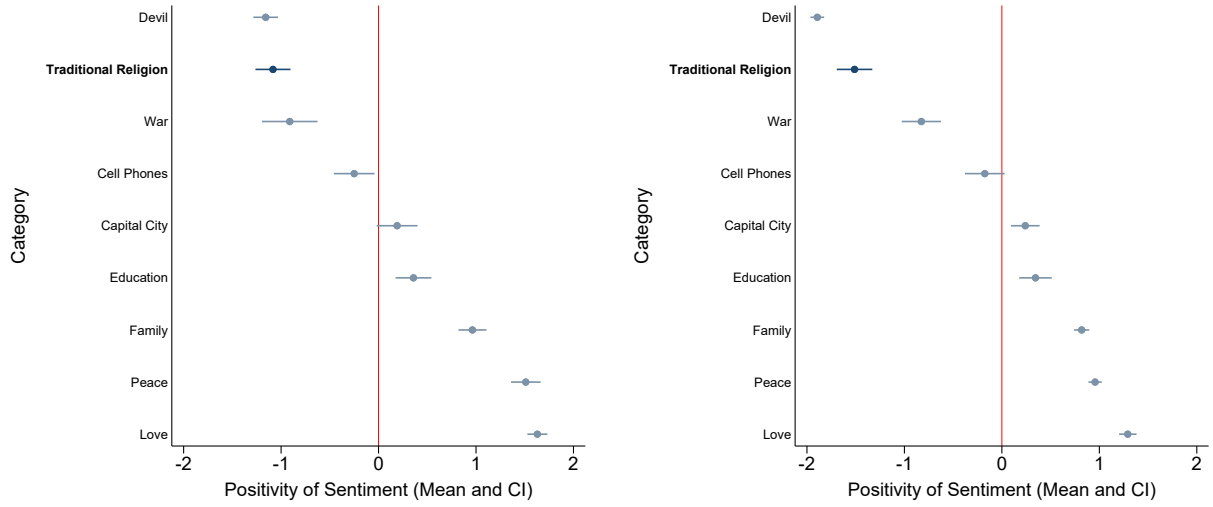


(a) LlaMA

(b) ChatGPT

Notes: The figure presents whether a topic was mentioned in a sermon based on LLM coding (n=181). The coding by LlaMa is in panel a; the coding by ChatGPT is in panel b. The primary topic of interest – African Traditional Religions – is in bold. This data corresponds to the corpus of sermons from the Cross-Africa sample.

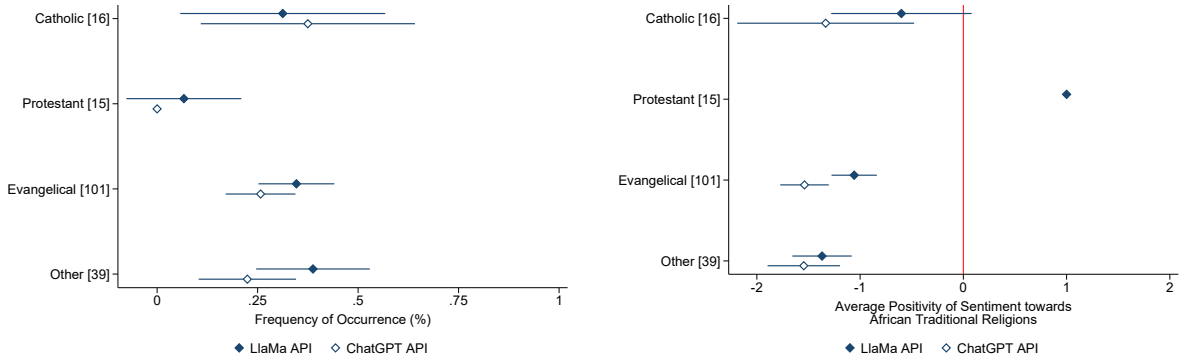
Figure A11: Topic Sentiment as Coded by Llama and ChatGPT



(a) LlaMA (b) ChatGPT

Notes: The figure presents the sentiment with which a topic is mentioned in a sermon based on LLM coding. The coding by LlaMa is in panel a; the coding by ChatGPT is in panel b. The primary topic of interest – African Traditional Religions – is in bold. This data corresponds to the corpus of sermons from the Cross-Africa sample.

Figure A12: Topic Sentiment by Denomination and Method



Notes: The figure presents the share of sermons where the topic of interest – African Traditional Religions – is mentioned (panel a) and the average sentiment (panel b) by denomination and coding method. The coding varies from very negative (-2) to very positive (2). This is based on LLM coding – LlaMa 3.2 and ChatGPT 4o – as well as enumerator and research assistant coding. This data corresponds to the corpus of sermons from the Cross-Africa sample.

A.4. Data Collection and Summary Statistics

For the urban sample, we used Google satellite imagery to develop a sampling frame. We divided the city into enumeration areas whose shapes were determined by natural boundaries, such as roads and rivers. We estimated the population size within each area by counting the number of houses.

We randomly selected 26 out of the 89 enumeration areas to be visited by survey enumerators. We used a probability-proportional-to-size (PPS) sampling method so that the probability of choosing a particular area was proportional to its estimated population size. The target number of observations for the study was 520 people. Twenty households were visited in each area. To ensure geographic coverage within an area, enumerators followed a skip pattern that was determined by the estimated population and the target number of observations.

For each household that was visited, enumerators asked to speak to the head of the household. If the head of the household was not available, the enumerator asked to interview an adult member of the household. If the individual agreed to participate, they first completed a short screening survey that collected basic demographic information. A sub-sample of those who completed the screening survey were asked to participate in the lab experiments. Respondents who completed the screening survey received CF 500, and respondents who were invited to complete the lab experiments received CF 1,000 (approximately 0.60 USD) for completing a slightly longer version of the survey.

Of the 733 people who were randomly chosen for our screening survey, 520 eventually completed the experiments. Of the 213 that did not complete the experiments, 131 were excluded because they were not from a main ethnic group, 72 did not have a strong or very strong belief in the Christian God, and 10 declined to participate.

For the rural sample, we compiled a list of villages in the territory. We then randomly sampled 50 villages from that list, stratifying by regions within the territory. Within each village, enumerators randomly selected twelve individuals to interview, for a total sample size of 600 individuals. The enumerators followed a random sampling procedure to identify houses to interview. We stratified on the respondent's gender so that for each village, we had about half women and half men. Respondents received CF 2,000 for completion of the surveys in addition to the amounts received in the lab experiments.

For a summary of implementation differences between the urban and rural samples, refer to Appendix Table A3. The key differences between the urban and rural samples were the year of visit and the time between visits. Screening for the rural sample was not necessary since villages were not ethnically diverse like the city, and they also had a larger proportion of individuals with weaker beliefs in the Christian God. Thus, we did not screen out minority ethnic groups or those who did not believe strongly or very strongly in the Christian God. Finally, respondents were told they would receive payments for 2 of the 3 games in the rural sample. We would randomly select two; in practice, we put a low probability on selecting the CYD. Aside from these implementation details made for logistical reasons, the protocols are identical.

Figure A13: Map of DRC showing Sampled Territory

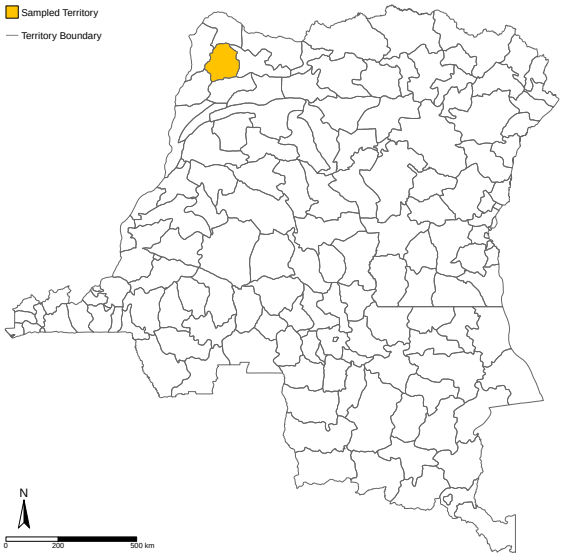


Figure A14: Map of Territory, Capital, and Sampled Villages

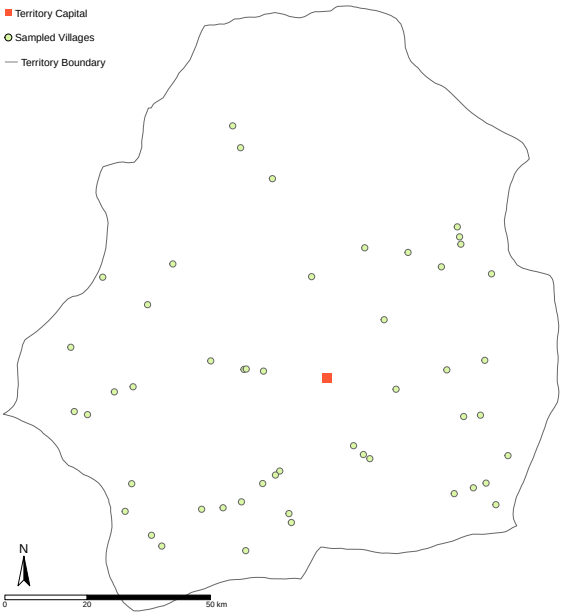


Table A2: Summary Statistics

	Urban Sample			Rural Sample			Both Samples		
	Obs.	Mean	Std. Dev.	Obs.	Mean	Std. Dev.	Obs.	Mean	Std. Dev.
Respondent Characteristics									
Traditional Beliefs - Integer Measure (1-4)	520	3.033	1.113	600	2.997	1.150	1120	3.013	1.132
Traditional Beliefs - Strong or Very Strong (0/1)	520	0.729	0.445	600	0.732	0.443	1120	0.730	0.444
Belief in Christian God (1-5)	520	4.785	0.411	600	4.460	0.947	1120	4.611	0.765
Male (0/1)	520	0.602	0.490	600	0.638	0.481	1120	0.621	0.485
Old (0/1)	520	0.487	0.500	600	0.482	0.500	1120	0.484	0.500
Education (1-3)	520	2.154	0.699	600	1.843	0.660	1120	1.988	0.696
Less than Primary (0/1)	520	0.179	0.384	600	0.308	0.462	1120	0.248	0.432
Completed Primary (0/1)	520	0.488	0.500	600	0.540	0.499	1120	0.516	0.500
Completed Secondary (0/1)	520	0.333	0.472	600	0.152	0.359	1120	0.236	0.425
Grew Up in a Rural Area (0/1)	520	0.242	0.429	600	0.778	0.416	1120	0.529	0.499
Outcome Variables									
Amount Sent to Other Player in DG (in CF) (0-1000)	1040	468.9	181.5	1200	437.6	213.6	2240	452.1	199.9
Chose Player as Dictator in CYD (0/1)	2080	0.500	0.500	2400	0.500	0.500	4480	0.500	0.500
Choice in JOD (-1-1)	1022	0.164	0.674	1190	0.081	0.685	2212	0.119	0.681
Chose to Increase in JOD (0/1)	1022	0.323	0.468	1200	0.276	0.447	2222	0.297	0.457
Chose to Decrease in JOD (0/1)	1022	0.159	0.365	1200	0.196	0.397	2222	0.179	0.383
Chose to do Nothing in JOD (0/1)	1022	0.519	0.500	1200	0.520	0.500	2222	0.519	0.500

Notes: This table presents summary statistics for the urban sample, the rural sample, and for both samples for the main game variables. *Traditional Beliefs - Integer Measure* is a variable from 1 to 4, where (1) is weak traditional beliefs, (2) neither weak nor strong traditional beliefs, (3) strong traditional beliefs, and (4) very strong traditional beliefs. *Traditional Beliefs - Strong or Very Strong* is an indicator variable equal 1 if the individual has strong or very strong beliefs, where the omitted category is weak traditional beliefs or neither weak nor strong traditional beliefs. *Belief in Christian God* is a variable from 1 to 5, where (1) is very weak belief and (5) is very strong belief for the rural sample. For the urban sample the values are (4) strong belief and (5) very strong belief. *Male* is an indicator variable equal to 1 if the individual is male. *Old* is an indicator variable equal to 1 if the individual is old (greater than 35 in this context). *Education* is a variable from 1 to 3, where (1) is less than primary (2) completed primary, and (3) completed secondary or higher. *Less than primary* is an indicator variable equal to 1 if the individual completed less than primary school. *Less than primary* is an indicator variable equal to 1 if the individual completed less than primary school. *Completed primary* is an indicator variable equal to 1 if the individual completed primary school. *Completed secondary* is an indicator variable equal to 1 if the individual completed secondary school or higher. *Grew up in a rural area* is an indicator variable equal to 1 if the individual grew up in a rural area (rather than a city). *Amount Sent to the Other Player in DG* is the quantity sent in the DG from the endowment of CF 1000. *Chose Player as Dictator in CYD* is an indicator equal to 1 if a person is chosen as a dictator. *Choice in JOD* takes the value of -1 if Player 1 chose to decrease the endowment of Player 2, 0 if Player 1 chose to do nothing, and 1 if Player 1 chose to increase the endowment of Player 2. *Chose to Increase in JOD* is an indicator variable if the Player 1 chose to increase the endowment of Player 2. *Chose to Decrease in JOD* is an indicator variable if the Player 1 chose to decrease the endowment of Player 2. *Chose to do Nothing in JOD* is an indicator variable if the Player 1 chose to do nothing.

Table A3: Implementation Differences between Urban and Rural Sample

Activity	*Characteristic*	*Urban Sample*	*Rural Sample*
Games (visit 1)	**Sample**	1 city	50 rural villages
	Sample size	520 individuals	600 individuals (12 per village)
	Screening for participation	From 3 largest ethnic groups; Strong or very strong belief in Christian God	None
	Player 2's belief in God	Strong or very strong	Very weak, weak, neither weak nor strong, strong, very strong
	Payment for survey participation	CF 1,000	CF 2,000
	Payment time lapse	One month	Three weeks
	Games paid out	All	Two of three randomly selected
Norms (visit 2)	**Sample**	Same participants as games	Same participants as games
	Sample size	449 individuals	596 individuals
	Time between visit 1 and 2	1 year	2 days
	Incentive Norms	CF 5,000 for most common responses	CF 3,000 for most common responses

Notes: This table describes the implementation of the games (visit 1) and norms measurement (visit 2) across the urban and rural samples.

Table A4: Correlates of Traditional Beliefs

	OLS, Dep. Var.: Strength of Traditional Beliefs					
	Panel A: Urban Sample					
	(1)	(2)	(3)	(4)	(5)	(6)
Male	-0.147	-0.0868	-0.152	-0.154	-0.141	-0.0719
	(0.098)	(0.102)	(0.099)	(0.097)	(0.099)	(0.105)
Completed Primary		0.0450				-0.00697
		(0.130)				(0.132)
Completed Secondary		-0.275*				-0.352**
		(0.150)				(0.154)
Grew up in a rural area			-0.0454			-0.0148
			(0.112)			(0.114)
Very Strong Belief in Christian God				0.354***		0.372***
				(0.123)		(0.122)
Ngombe					0.0560	0.153
					(0.165)	(0.168)
Ngbandi					0.112	0.150
					(0.150)	(0.146)
Observations	520	520	520	520	520	520
Mean Dep. Var.	3.033	3.033	3.033	3.033	3.033	3.033
	Panel B: Rural Sample					
	(1)	(2)	(3)	(4)	(5)	(6)
Male	-0.0431	0.0625	-0.125	-0.0794	-0.0504	-0.0532
	(0.098)	(0.104)	(0.099)	(0.096)	(0.097)	(0.104)
Completed Primary		-0.169				-0.154
		(0.107)				(0.104)
Completed Secondary		-0.448***				-0.386**
		(0.154)				(0.159)
Grew up in a rural area			0.354***			0.280**
			(0.120)			(0.121)
Belief in Christian God, 1-5				0.174***		0.158***
				(0.051)		(0.052)
Ngombe					-1.193**	-1.077**
					(0.498)	(0.545)
Ngbandi					0.980***	1.044***
					(0.085)	(0.125)
Observations	600	600	600	600	600	600
Mean Dep. Var.	2.997	2.997	2.997	2.997	2.997	2.997

Notes: Robust standard errors in parentheses. All columns include controls for age and age squared. *Traditional Beliefs* is a variable from 1 to 4, where (1) is weak traditional beliefs, (2) neither weak nor strong traditional beliefs, (3) strong traditional beliefs, and (4) very strong traditional beliefs. *Completed Primary* is an indicator variable equal to one if the respondent completed primary but did not complete secondary school. *Completed Secondary* is an indicator variable equal to one if the respondent completed secondary school. The excluded category is did not complete primary. *Very Strong Belief in Christian God* is an indicator variable equal to one if the respondent reports a very strong belief in the Christian God. The omitted category is a somewhat strong belief in the Christian God for the City Sample. *Belief in Christian God, 1-5* is a variable from 1 to 5, where (1) is a very weak belief in the Christian God, (2) weak belief in the Christian God, (3) neither weak nor strong belief in the Christian God, (4) strong belief in the Christian God, (5) very strong belief in the Christian God. Ngombe and Ngbandi are fixed effects for two of the three ethnic groups. The omitted category is Ngbaka. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

A.5. Additional Game Results

Table A5: Dictator Game Estimates

	OLS, Dep. Var.: Amount Sent to Other Player (in CF)											
	Urban Sample				*Rural Sample*				*Both Samples*			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Player 2's Traditional Beliefs:												
Integer Measure, 1-4	-11.364	-12.198			-2.144	-4.835			-6.675	-8.441		
	[4.932]**	[3.903]***			[5.605]	[3.994]			[3.746]*	[2.802]***		
	(3.941)**	(5.522)***			(4.180)	(5.651)			(2.872)*	(3.964)***		
Strong or Very Strong			-29.882	-29.265			-10.355	-11.077			-19.613	-19.749
			[11.257]***	[8.406]***			[12.128]	[8.739]			[8.342]**	[6.098]***
			(8.525)***	(11.894)***			(8.859)	(12.364)			(6.166)**	(8.626)***
Player 1's Traditional Beliefs:												
Integer Measure, 1-4	-8.230				-10.732				-9.653			
	[5.142]				[5.338]**				[3.701]***			
	(6.257)				(6.428)**				(4.487)***			
Strong or Very Strong			-15.162				-29.077				-22.363	
			[12.711]				[14.250]**				[9.597]**	
			(15.661)				(17.242)**				(11.723)**	
Player 1 FE	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y
Sample FE	N	N	N	N	N	N	N	N	Y	Y	Y	Y
Observations	1,040	1,040	1,040	1,040	1,200	1,200	1,200	1,200	2,240	2,240	2,240	2,240
Respondents	520	520	520	520	600	600	600	600	1,120	1,120	1,120	1,120
Mean Dep. Var.	468.9	468.9	468.9	468.9	437.7	437.7	437.7	437.7	452.2	452.2	452.2	452.2
SD Dep. Var.	181.6	181.6	181.6	181.6	213.6	213.6	213.6	213.6	199.9	199.9	199.9	199.9

Notes: The table reports OLS estimates of equation 1 and 2. All columns include fixed effects for player 2 characteristics: gender, educational attainment, grew up in a rural area, strength of belief in Christian God, and same tribe as player 1. Odd-numbered columns include fixed effects for the equivalent player 1 characteristics. Even-numbered columns include player 1 fixed effects. *Amount Sent to Other Player* is the amount player 1 sends to player 2 in an anonymous dictator game (in CF). *Traditional Beliefs* is a variable from 1 to 4, where (1) is weak traditional beliefs, (2) neither weak nor strong traditional beliefs, (3) strong traditional beliefs, and (4) very strong traditional beliefs. Columns 1, 2, 5, 6, 9, and 10 present the results with traditional beliefs as a 1 to 4 variable. Columns 3, 4, 7, 8, 11, and 12 present the results with an indicator variable that equals 1 for strong or very strong traditional beliefs, where the omitted category is weak traditional beliefs or neither weak nor strong traditional beliefs. Robust standard errors are reported in []. Standard errors clustered at the individual level in (). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A6: Choose Your Dictator Game Estimates

	OLS, Dep. Var.: Chose Player as Dictator											
	Urban Sample				*Rural Sample*				*Both Samples*			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Player 2's Traditional Beliefs:												
Integer Measure, 1-4	-0.142	-0.149			-0.139	-0.148			-0.140	-0.148		
	[0.009]***	[0.011]***			[0.008]***	[0.010]***			[0.006]***	[0.007]***		
	(0.013)***	(0.016)***			(0.011)***	(0.013)***			(0.009)***	(0.010)***		
Strong or Very Strong			-0.367	-0.366			-0.343	-0.344			-0.354	-0.354
			[0.020]***	[0.024]***			[0.018]***	[0.021]***			[0.014]***	[0.016]***
			(0.032)***	(0.036)***			(0.027)***	(0.031)***			(0.021)***	(0.024)***
Player 1's Traditional Beliefs:												
Integer Measure, 1-4	-0.001				-0.002				-0.002			
	[0.009]				[0.009]				[0.006]			
	(0.002)				(0.003)				(0.002)			
Strong or Very Strong			-0.000				-0.004				-0.002	
			[0.023]				[0.022]				[0.016]	
			(0.002)				(0.006)				(0.004)	
Player 1 FE	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y
Sample FE	N	N	N	N	N	N	N	N	Y	Y	Y	Y
Observations	2,080	2,080	2,080	2,080	2,400	2,400	2,400	2,400	4,480	4,480	4,480	4,480
Respondents	520	520	520	520	600	600	600	600	1,120	1,120	1,120	1,120
Mean Dep. Var.	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500
SD Dep. Var.	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500

Notes: The table reports OLS estimates of equation 1 and 2. The data are stacked so that there are four observations per respondent, one corresponding to each person that they could choose between for the two rounds of the CYD. All columns include fixed effects for player 2 characteristics: gender, educational attainment, grew up in a rural area, strength of belief in Christian God, and same tribe as player 1. Odd-numbered columns include fixed effects for the equivalent player 1 characteristics. Even-numbered columns include player 1 fixed effects. *Chose Player as Dictator* is an indicator variable equal to 1 if this player was selected. *Traditional Beliefs* is a variable from 1 to 4, where (1) is weak traditional beliefs, (2) neither weak nor strong traditional beliefs, (3) strong traditional beliefs, and (4) very strong traditional beliefs. Columns 1, 2, 5, 6, 9, and 10 present the results with traditional beliefs as a 1 to 4 variable. Columns 3, 4, 7, 8, 11, and 12 present the results with an indicator variable that equals 1 for strong or very strong traditional beliefs, where the omitted category is weak traditional beliefs or neither weak nor strong traditional beliefs. Robust standard errors are reported in []. Standard errors clustered at the individual level in (). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A7: Joy of Destruction Game Estimates

	OLS, Dep. Var.: Choice in JOD											
	Urban Sample				*Rural Sample*				*Both Samples*			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Player 2's Traditional Beliefs:												
Integer Measure, 1-4	-0.040	-0.039			-0.043	-0.046			-0.043	-0.043		
	[0.020]**	[0.019]**			[0.017]**	[0.017]***			[0.013]***	[0.012]***		
	(0.018)**	(0.027)**			(0.016)**	(0.024)***			(0.012)***	(0.018)***		
Strong or Very Strong			-0.107	-0.107			-0.084	-0.082			-0.096	-0.093
			[0.043]**	[0.040]***			[0.039]**	[0.036]**			[0.029]***	[0.026]***
			(0.040)**	(0.057)***			(0.036)**	(0.051)**			(0.026)***	(0.037)***
Player 1's Traditional Beliefs:												
Integer Measure, 1-4	0.017				-0.062				-0.027			
	[0.019]				[0.017]***				[0.013]**			
	(0.020)				(0.018)***				(0.014)**			
Strong or Very Strong			0.042				-0.131				-0.048	
			[0.048]				[0.045]***				[0.033]	
			(0.051)				(0.048)***				(0.035)	
Player 1 FE	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y
Sample FE	N	N	N	N	N	N	N	N	Y	Y	Y	Y
Observations	1,022	1,022	1,022	1,022	1,190	1,190	1,190	1,190	2,212	2,212	2,212	2,212
Respondents	513	513	513	513	598	598	598	598	1,111	1,111	1,111	1,111
Mean Dep. Var.	0.164	0.164	0.164	0.164	0.081	0.081	0.081	0.081	0.119	0.119	0.119	0.119
SD Dep. Var.	0.674	0.674	0.674	0.674	0.685	0.685	0.685	0.685	0.681	0.681	0.681	0.681

Notes: The table reports OLS estimates of equation 1 and 2. All columns include fixed effects for player 2 characteristics: gender, educational attainment, grew up in a rural area, strength of belief in Christian God, and same tribe as player 1. Odd-numbered columns include fixed effects for the equivalent player 1 characteristics. Even-numbered columns include player 1 fixed effects. *Choice in JOD* takes the value of -1 if player 1 chooses to decrease the endowment of player 2, 0 if player 1 chooses to do nothing, and 1 if player 1 chooses to increase the endowment of player 2. *Traditional Beliefs* is a variable from 1 to 4, where (1) is weak traditional beliefs, (2) neither weak nor strong traditional beliefs, (3) strong traditional beliefs, and (4) very strong traditional beliefs. Columns 1, 2, 5, 6, 9, and 10 present the results with traditional beliefs as a 1 to 4 variable. Columns 3, 4, 7, 8, 11, and 12 present the results with an indicator variable that equals 1 for strong or very strong traditional beliefs, where the omitted category is weak traditional beliefs or neither weak nor strong traditional beliefs. Robust standard errors are reported in []. Standard errors clustered at the individual level in (). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A8: Joy of Destruction Game Estimates: Chose to Increase

	OLS, Dep. Var.: Chose to Increase in Joy of Destruction											
	Urban Sample				*Rural Sample*				*Both Samples*			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Player 2's Traditional Beliefs:												
Integer Measure, 1-4	-0.025	-0.022			-0.024	-0.026			-0.025	-0.024		
	[0.014]*	[0.013]*			[0.011]**	[0.011]**			[0.009]***	[0.008]***		
	(0.013)*	(0.018)*			(0.010)**	(0.015)**			(0.008)***	(0.011)***		
Strong or Very Strong			-0.070	-0.064			-0.044	-0.042			-0.056	-0.052
			[0.029]**	[0.027]**			[0.025]*	[0.023]*			[0.019]***	[0.017]***
			(0.027)**	(0.038)**			(0.023)*	(0.032)*			(0.017)***	(0.024)***
Player 1's Traditional Beliefs:												
Integer Measure, 1-4	0.007				-0.040				-0.020			
	[0.013]				[0.012]***				[0.009]**			
	(0.014)				(0.013)***				(0.010)**			
Strong or Very Strong			0.044				-0.081				-0.024	
			[0.033]				[0.030]***				[0.022]	
			(0.036)				(0.034)***				(0.025)	
Player 1 FE	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y
Sample FE	N	N	N	N	N	N	N	N	Y	Y	Y	Y
Observations	1,022	1,022	1,022	1,022	1,200	1,200	1,200	1,200	2,222	2,222	2,222	2,222
Respondents	513	513	513	513	600	600	600	600	1,113	1,113	1,113	1,113
Mean Dep. Var.	0.323	0.323	0.323	0.323	0.276	0.276	0.276	0.276	0.297	0.297	0.297	0.297
SD Dep. Var.	0.468	0.468	0.468	0.468	0.447	0.447	0.447	0.447	0.457	0.457	0.457	0.457

Notes: All columns include fixed effects for player 2 characteristics: gender, educational attainment, grew up in a rural area, strength of belief in Christian God, and same tribe as player 1. Odd-numbered columns include fixed effects for the equivalent player 1 characteristics. Even-numbered columns include player 1 fixed effects. *Chose to Increase in Joy of Destruction* takes the value 1 if player 1 chose to increase the endowment of player 2. *Traditional Beliefs* is a variable from 1 to 4, where (1) is weak traditional beliefs, (2) neither weak nor strong traditional beliefs, (3) strong traditional beliefs, and (4) very strong traditional beliefs. Columns 1, 2, 5, 6, 9, and 10 present the results with traditional beliefs as a 1 to 4 variable. Columns 3, 4, 7, 8, 11, and 12 present the results with an indicator variable that equals 1 if an individual has strong or very strong traditional beliefs, where the omitted category is weak traditional beliefs or neither weak nor strong traditional beliefs. Robust standard errors are reported in []. Standard errors clustered at the individual level in (). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A9: Joy of Destruction Game Estimates: Chose to Decrease

	OLS, Dep. Var.: Chose to Decrease in Joy of Destruction											
	Urban Sample				*Rural Sample*				*Both Samples*			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Player 2's Traditional Beliefs:												
Integer Measure, 1-4	0.015	0.017			0.018	0.020			0.018	0.019		
	[0.010]	[0.011]			[0.010]*	[0.010]**			[0.007]**	[0.007]***		
	(0.010)	(0.015)			(0.009)*	(0.014)**			(0.007)**	(0.010)***		
Strong or Very Strong			0.037	0.043			0.039	0.038			0.040	0.040
			[0.023]	[0.023]*			[0.023]*	[0.021]*			[0.016]**	[0.015]***
			(0.022)	(0.032)*			(0.021)*	(0.029)*			(0.015)**	(0.021)***
Player 1's Traditional Beliefs:												
Integer Measure, 1-4	-0.010				0.022				0.007			
	[0.011]				[0.010]**				[0.007]			
	(0.011)				(0.010)**				(0.007)			
Strong or Very Strong			0.002				0.051				0.025	
			[0.026]				[0.025]**				[0.018]	
			(0.027)				(0.027)**				(0.019)	
Player 1 FE	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y
Sample FE	N	N	N	N	N	N	N	N	Y	Y	Y	Y
Observations	1,022	1,022	1,022	1,022	1,200	1,200	1,200	1,200	2,222	2,222	2,222	2,222
Respondents	513	513	513	513	600	600	600	600	1,113	1,113	1,113	1,113
Mean Dep. Var.	0.159	0.159	0.159	0.159	0.196	0.196	0.196	0.196	0.179	0.179	0.179	0.179
SD Dep. Var.	0.365	0.365	0.365	0.365	0.397	0.397	0.397	0.397	0.383	0.383	0.383	0.383

Notes: All columns include fixed effects for player 2 characteristics: gender, educational attainment, grew up in a rural area, strength of belief in Christian God, and same tribe as player 1. Odd-numbered columns include fixed effects for the equivalent player 1 characteristics. Even-numbered columns include player 1 fixed effects. *Chose to Decrease in Joy of Destruction* takes the value 1 if player 1 chose to decrease the endowment of player 2. *Traditional Beliefs* is a variable from 1 to 4, where (1) is weak traditional beliefs, (2) neither weak nor strong traditional beliefs, (3) strong traditional beliefs, and (4) very strong traditional beliefs. Columns 1, 2, 5, 6, 9, and 10 present the results with traditional beliefs as a 1 to 4 variable. Columns 3, 4, 7, 8, 11, and 12 present the results with an indicator variable that equals 1 if an individual has strong or very strong traditional beliefs, where the omitted category is weak traditional beliefs or neither weak nor strong traditional beliefs. Robust standard errors are reported in []. Standard errors clustered at the individual level in (). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

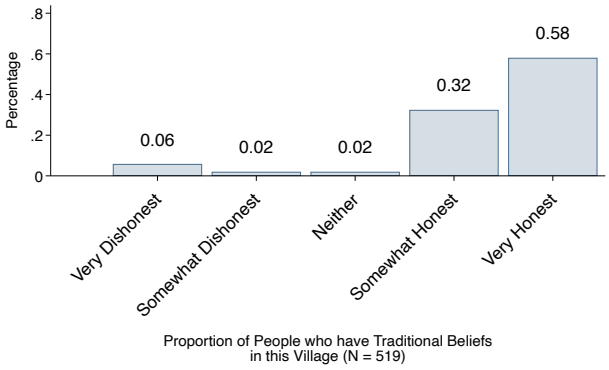
Table A10: Joy of Destruction Game Estimates: Chose to do Nothing

	OLS, Dep. Var.: Chose to do Nothing in Joy of Destruction											
	Urban Sample				*Rural Sample*				*Both Samples*			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Player 2's Traditional Beliefs:												
Integer Measure, 1-4	0.010	0.004			0.008	0.008			0.008	0.006		
	[0.014]	[0.014]			[0.013]	[0.011]			[0.010]	[0.009]		
	(0.013)	(0.020)			(0.011)	(0.016)			(0.009)	(0.012)		
Strong or Very Strong			0.033	0.022			0.008	0.007			0.018	0.014
			[0.031]	[0.029]			[0.029]	[0.025]			[0.021]	[0.019]
			(0.029)	(0.041)			(0.025)	(0.035)			(0.019)	(0.027)
Player 1's Traditional Beliefs:												
Integer Measure, 1-4	0.003				0.016				0.012			
	[0.014]				[0.013]				[0.010]			
	(0.015)				(0.014)				(0.011)			
Strong or Very Strong			-0.047				0.022				-0.006	
			[0.036]				[0.033]				[0.024]	
			(0.038)				(0.037)				(0.027)	
Player 1 FE	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y
Sample FE	N	N	N	N	N	N	N	N	Y	Y	Y	Y
Observations	1,022	1,022	1,022	1,022	1,200	1,200	1,200	1,200	2,222	2,222	2,222	2,222
Respondents	513	513	513	513	600	600	600	600	1,113	1,113	1,113	1,113
Mean Dep. Var.	0.519	0.519	0.519	0.519	0.520	0.520	0.520	0.520	0.519	0.519	0.519	0.519
SD Dep. Var.	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500

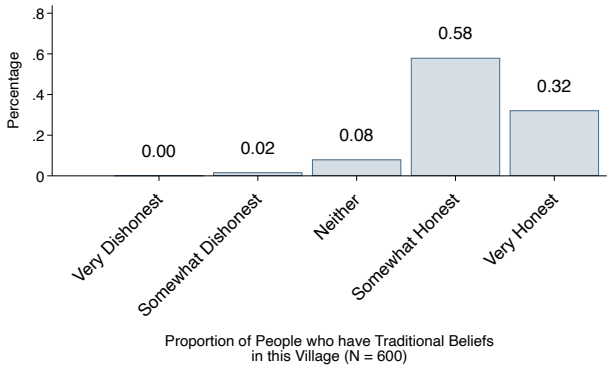
Notes: All columns include fixed effects for player 2 characteristics: gender, educational attainment, grew up in a rural area, strength of belief in Christian God, and same tribe as player 1. Odd-numbered columns include fixed effects for the equivalent player 1 characteristics. Even-numbered columns include player 1 fixed effects. *Chose to do Nothing in Joy of Destruction* takes the value 1 if player 1 chose neither to increase nor to decrease the endowment of player 2. *Traditional Beliefs* is a variable from 1 to 4, where (1) is weak traditional beliefs, (2) neither weak nor strong traditional beliefs, (3) strong traditional beliefs, and (4) very strong traditional beliefs. Columns 1, 2, 5, 6, 9, and 10 present the results with traditional beliefs as a 1 to 4 variable. Columns 3, 4, 7, 8, 11, and 12 present the results with an indicator variable that equals 1 if an individual has strong or very strong traditional beliefs, where the omitted category is weak traditional beliefs or neither weak nor strong traditional beliefs. Robust standard errors are reported in []. Standard errors clustered at the individual level in (). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Figure A15: Enumerators' Estimation of Respondents' Honesty regarding Traditional Beliefs

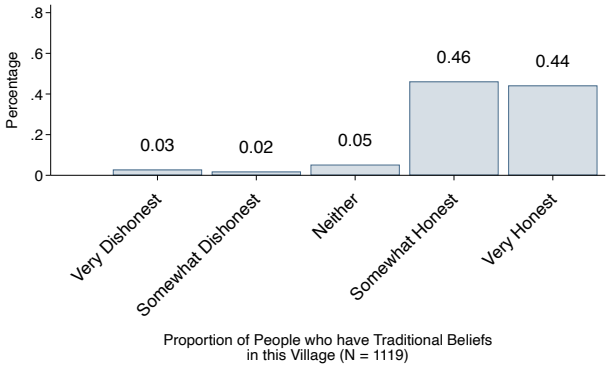
(a) Urban Sample



(b) Rural Sample



(c) Both Samples



Notes: These histograms show the distribution of responses to the question: "How honest do you think the respondent was when answering the questions about witchcraft?" The response options are: 'very dishonest', 'somewhat dishonest', 'neither dishonest nor honest', 'somewhat honest', or 'very honest'. Panel A15a shows the distribution for the urban sample, panel A15b shows the distribution for the rural sample, and panel A15c for both samples.

Table A11: Dictator Game Estimates: Sample of Respondents Considered Honest about their Beliefs

	OLS, Dep. Var.: Amount Sent to Other Player (in CF)											
	Urban Sample				*Rural Sample*				*Both Samples*			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Player 2's Traditional Beliefs:												
Integer Measure, 1-4	-11.636	-12.320			-2.640	-4.969			-6.922	-8.506		
	[5.080]**	[4.160]***			[5.615]	[3.989]			[3.814]*	[2.885]***		
	(4.141)**	(5.886)***			(4.155)	(5.644)			(2.932)*	(4.081)***		
Strong or Very Strong			-31.152	-29.958			-11.367	-11.772			-20.506	-20.304
			[11.640]***	[8.973]***			[12.115]	[8.767]			[8.496]**	[6.293]***
			(9.107)***	(12.696)***			(8.865)	(12.403)			(6.359)**	(8.902)***
Player 1's Traditional Beliefs:												
Integer Measure, 1-4	-0.765				-11.088				-6.978			
	[5.186]				[5.342]**				[3.764]*			
	(6.083)				(6.426)**				(4.506)*			
Strong or Very Strong			2.563				-30.244				-16.221	
			[13.154]				[14.304]**				[9.883]	
			(15.823)				(17.312)**				(11.969)	
Player 1 FE	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y
Sample FE	N	N	N	N	N	N	N	N	Y	Y	Y	Y
Observations	958	958	958	958	1,178	1,178	1,178	1,178	2,136	2,136	2,136	2,136
Respondents	479	479	479	479	589	589	589	589	1,068	1,068	1,068	1,068
Mean Dep. Var.	463.0	463.0	463.0	463.0	437.1	437.1	437.1	437.1	448.7	448.7	448.7	448.7
SD Dep. Var.	180.5	180.5	180.5	180.5	211.2	211.2	211.2	211.2	198.4	198.4	198.4	198.4

Notes: All columns include fixed effects for player 2 characteristics: gender, educational attainment, grew up in a rural area, strength of belief in Christian God, and same tribe as player 1. Odd-numbered columns include fixed effects for the equivalent player 1 characteristics. Even-numbered columns include player 1 fixed effects. *Amount Sent to Other Player* is the amount player 1 sends to player 2 in an anonymous dictator game (in CF). *Traditional Beliefs* is a variable from 1 to 4, where (1) is weak traditional beliefs, (2) neither weak nor strong traditional beliefs, (3) strong traditional beliefs, and (4) very strong traditional beliefs. Columns 1, 2, 5, 6, 9, and 10 present the results with traditional beliefs as a 1 to 4 variable. Columns 3, 4, 7, 8, 11, and 12 present the results with an indicator variable that equals 1 if an individual has strong or very strong traditional beliefs, where the omitted category is weak traditional beliefs or neither weak nor strong traditional beliefs. The sample excludes 51 respondents deemed dishonest by our interviewers about their beliefs. Robust standard errors are reported in []. Standard errors clustered at the individual level in (). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A12: Choose Your Dictator Game Estimates: Sample of Respondents Considered Honest about their Beliefs

	OLS, Dep. Var.: Chose Player as Dictator											
	Urban Sample				*Rural Sample*				*Both Samples*			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Player 2's Traditional Beliefs:												
Integer Measure, 1-4	-0.138	-0.145			-0.138	-0.146			-0.138	-0.146		
	[0.010]***	[0.011]***			[0.008]***	[0.010]***			[0.006]***	[0.007]***		
	(0.014)***	(0.017)***			(0.011)***	(0.014)***			(0.009)***	(0.011)***		
Strong or Very Strong			-0.352	-0.351			-0.341	-0.342			-0.345	-0.345
			[0.021]***	[0.025]***			[0.019]***	[0.021]***			[0.014]***	[0.016]***
			(0.033)***	(0.038)***			(0.027)***	(0.031)***			(0.021)***	(0.024)***
Player 1's Traditional Beliefs:												
Integer Measure, 1-4	-0.002				-0.002				-0.002			
	[0.010]				[0.009]				[0.007]			
	(0.002)				(0.003)				(0.002)			
Strong or Very Strong			-0.001				-0.005				-0.003	
			[0.026]				[0.022]				[0.017]	
			(0.002)				(0.007)				(0.004)	
Player 1 FE	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y
Sample FE	N	N	N	N	N	N	N	N	Y	Y	Y	Y
Observations	1,916	1,916	1,916	1,916	2,356	2,356	2,356	2,356	4,272	4,272	4,272	4,272
Respondents	479	479	479	479	589	589	589	589	1,068	1,068	1,068	1,068
Mean Dep. Var.	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500
SD Dep. Var.	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500

Notes: The data are stacked so that there are four observations per respondent, one corresponding to each person that they could choose between for the two rounds of the CYD. All columns include fixed effects for player 2 characteristics: gender, educational attainment, grew up in a rural area, strength of belief in Christian God, and same tribe as player 1. Odd-numbered columns include fixed effects for the equivalent player 1 characteristics. Even-numbered columns include player 1 fixed effects. *Chose Player as Dictator* is an indicator variable equal to 1 if this player was selected. *Traditional Beliefs* is a variable from 1 to 4, where (1) is weak traditional beliefs, (2) neither weak nor strong traditional beliefs, (3) strong traditional beliefs, and (4) very strong traditional beliefs. Columns 1, 2, 5, 6, 9, and 10 present the results with traditional beliefs as a 1 to 4 variable. Columns 3, 4, 7, 8, 11, and 12 present the results with an indicator variable that equals 1 if an individual has strong or very strong traditional beliefs, where the omitted category is weak traditional beliefs or neither weak nor strong traditional beliefs. The sample excludes 51 respondents deemed dishonest by our interviewers about their beliefs. Robust standard errors are reported in []. Standard errors clustered at the individual level in (). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

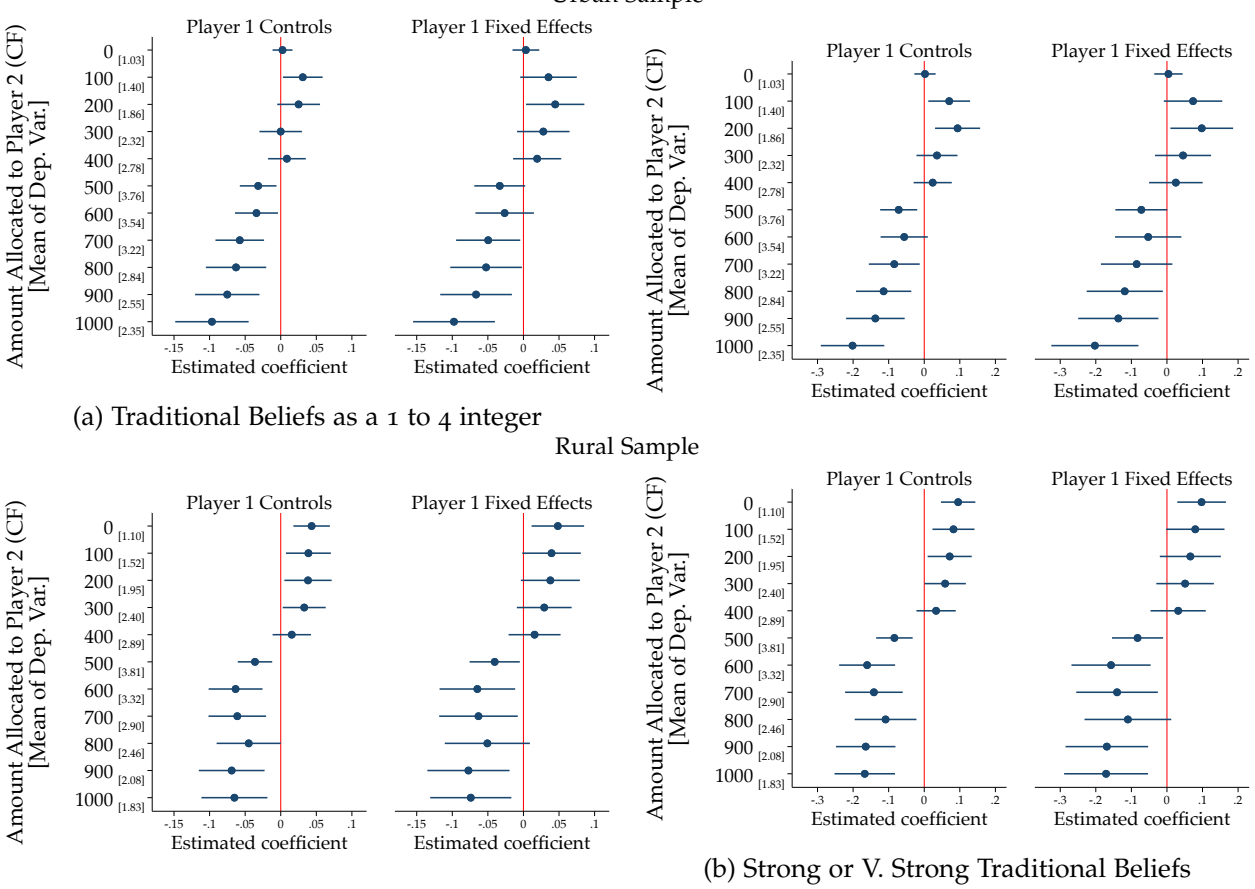
Table A13: Joy of Destruction Game Estimates: Sample of Respondents Considered Honest about their Beliefs

	OLS, Dep. Var.: Choice in JOD											
	Urban Sample				*Rural Sample*				*Both Samples*			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Player 2's Traditional Beliefs:												
Integer Measure, 1-4	-0.034	-0.031			-0.041	-0.044			-0.039	-0.038		
	[0.021]	[0.020]			[0.018]**	[0.017]***			[0.013]***	[0.013]***		
	(0.020)	(0.029)			(0.017)**	(0.024)***			(0.013)***	(0.018)***		
Strong or Very Strong			-0.095	-0.095			-0.081	-0.078			-0.088	-0.085
			[0.045]**	[0.042]**			[0.039]**	[0.036]**			[0.029]***	[0.027]***
			(0.042)**	(0.060)**			(0.036)**	(0.051)**			(0.027)***	(0.038)***
Player 1's Traditional Beliefs:												
Integer Measure, 1-4	0.024				-0.058				-0.025			
	[0.022]				[0.017]***				[0.014]*			
	(0.023)				(0.018)***				(0.014)*			
Strong or Very Strong			0.065				-0.120				-0.039	
			[0.053]				[0.045]***				[0.035]	
			(0.057)				(0.048)***				(0.037)	
Player 1 FE	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y
Sample FE	N	N	N	N	N	N	N	N	Y	Y	Y	Y
Observations	941	941	941	941	1,168	1,168	1,168	1,168	2,109	2,109	2,109	2,109
Respondents	472	472	472	472	587	587	587	587	1,059	1,059	1,059	1,059
Mean Dep. Var.	0.158	0.158	0.158	0.158	0.084	0.084	0.084	0.084	0.117	0.117	0.117	0.117
SD Dep. Var.	0.679	0.679	0.679	0.679	0.684	0.684	0.684	0.684	0.683	0.683	0.683	0.683

Notes: All columns include fixed effects for player 2 characteristics: gender, educational attainment, grew up in a rural area, strength of belief in Christian God, and same tribe as player 1. Odd-numbered columns include fixed effects for the equivalent player 1 characteristics. Even-numbered columns include player 1 fixed effects. *Choice in JOD* takes the value of -1 if player 1 chooses to decrease the endowment of player 2, 0 if player 1 chooses to do nothing, and 1 if player 1 chooses to increase the endowment of player 2. *Traditional Beliefs* is a variable from 1 to 4, where (1) is weak traditional beliefs, (2) neither weak nor strong traditional beliefs, (3) strong traditional beliefs, and (4) very strong traditional beliefs. Columns 1, 2, 5, 6, 9, and 10 present the results with traditional beliefs as a 1 to 4 variable. Columns 3, 4, 7, 8, 11, and 12 present the results with an indicator variable that equals 1 if an individual has strong or very strong traditional beliefs, where the omitted category is weak traditional beliefs or neither weak nor strong traditional beliefs. The sample excludes 51 respondents deemed dishonest by our interviewers about their beliefs. Robust standard errors are reported in []. Standard errors clustered at the individual level in (). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

A.6. Additional Norm Results

Figure A16: Effect of Player 2's Traditional Beliefs on How Appropriate Choices are in the DG



(a) Traditional Beliefs as a 1 to 4 integer

(b) Strong or V. Strong Traditional Beliefs

Notes: The figure reports OLS estimates of equation 3. The figure presents the effect of player 2's traditional beliefs on how appropriate each allocation choice is in the DG for the urban sample and rural sample. The eleven choices in the DG correspond to the amounts between CF 0 and 1,000 that can be sent to the other player. 'Appropriate' is a 1 to 4 variable, where (1) is very socially inappropriate, (2) is somewhat socially inappropriate, (3) is somewhat socially appropriate, and (4) is very socially appropriate. The mean value of appropriate for each choice is denoted in brackets. *Traditional Beliefs* is a variable from 1 to 4, where (1) is weak traditional beliefs, (2) neither weak nor strong traditional beliefs, (3) strong traditional beliefs, (4) very strong traditional beliefs. The subfigures in column (a) present the results with traditional beliefs as a 1 to 4 variable; the subfigures in column (b) present the results with traditional beliefs as an indicator variable equal to 1 for strong or very strong traditional beliefs. 'Player 1 Controls' denotes the specification with fixed effects for player 1 characteristics; 'Player 1 Fixed Effects' denotes the specification with player 1 fixed effects. Standard errors are clustered at the individual level.

Table A14: DG Appropriate to Send [...] CF

	OLS, Dep. Var.: Appropriate to Send [...] CF to the Other Player, 1-4																					
	0 CF		*100 CF*		*200 CF*		*300 CF*		*400 CF*		*500 CF*		*600 CF*		*700 CF*		*800 CF*		*900 CF*		*1000 CF*	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
	Panel A: Rural Sample																					
Player 2's Traditional Beliefs:																						
Strong or Very Strong	0.002	0.004	0.070	0.073	0.094	0.098	0.036	0.045	0.024	0.025	-0.072	-0.072	-0.056	-0.053	-0.084	-0.085	-0.114	-0.118	-0.137	-0.137	-0.202	-0.202
	[0.016]	[0.014]	[0.043]	[0.030]**	[0.048]*	[0.032]***	[0.051]	[0.028]	[0.045]	[0.027]	[0.034]**	[0.026]***	[0.045]	[0.034]	[0.058]	[0.036]**	[0.072]	[0.038]***	[0.082]*	[0.041]***	[0.091]**	[0.044]***
	(0.015)	(0.020)	(0.030)	(0.042)**	(0.032)*	(0.045)***	(0.029)	(0.040)	(0.027)	(0.038)	(0.027)**	(0.037)***	(0.034)	(0.047)	(0.036)	(0.051)**	(0.040)	(0.054)***	(0.042)*	(0.057)***	(0.045)**	(0.062)***
Player 1's Traditional Beliefs:																						
Strong or Very Strong	0.023		-0.030		0.044		0.051		0.090		-0.026		0.044		-0.049		-0.035		-0.167		-0.059	
	[0.013]*		[0.051]		[0.060]		[0.064]		[0.057]		[0.038]		[0.052]		[0.066]		[0.083]		[0.096]*		[0.105]	
	(0.013)*		(0.062)		(0.075)		(0.083)		(0.073)		(0.044)		(0.063)		(0.083)		(0.109)		(0.124)*		(0.137)	
Player 1 FE	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y
Sample FE	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Observations	898	898	898	898	898	898	898	898	898	898	898	898	898	898	898	898	898	898	898	898	898	898
Respondents	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449
Mean Dep. Var.	1.031	1.031	1.402	1.402	1.864	1.864	2.321	2.321	2.784	2.784	3.759	3.759	3.537	3.537	3.218	3.218	2.837	2.837	2.551	2.551	2.354	2.354
SD Dep. Var.	0.229	0.229	0.640	0.640	0.722	0.722	0.773	0.773	0.681	0.681	0.500	0.500	0.680	0.680	0.869	0.869	1.079	1.079	1.237	1.237	1.361	1.361
	Panel B: Urban Sample																					
Player 2's Traditional Beliefs:																						
Strong or Very Strong	0.095	0.097	0.082	0.080	0.072	0.066	0.059	0.051	0.033	0.032	-0.084	-0.083	-0.160	-0.157	-0.141	-0.140	-0.109	-0.110	-0.164	-0.169	-0.167	-0.171
	[0.026]***	[0.025]***	[0.044]*	[0.030]***	[0.049]	[0.031]**	[0.045]	[0.029]*	[0.037]	[0.028]	[0.029]***	[0.026]***	[0.050]***	[0.040]***	[0.058]**	[0.041]***	[0.066]	[0.044]**	[0.072]**	[0.042]***	[0.073]**	[0.042]***
	(0.025)***	(0.035)***	(0.030)*	(0.042)***	(0.032)	(0.044)**	(0.030)	(0.041)*	(0.028)	(0.040)	(0.026)***	(0.037)***	(0.040)***	(0.057)***	(0.041)**	(0.058)***	(0.044)	(0.062)**	(0.043)**	(0.059)***	(0.043)**	(0.060)***
Player 1's Traditional Beliefs:																						
Strong or Very Strong	0.054		0.142		0.252		0.235		0.158		-0.005		-0.178		-0.145		-0.055		-0.009		-0.107	
	[0.028]*		[0.050]***		[0.058]***		[0.053]***		[0.044]***		[0.037]		[0.057]***		[0.068]**		[0.077]		[0.085]		[0.088]	
	(0.029)*		(0.062)***		(0.073)***		(0.066)***		(0.053)***		(0.040)		(0.065)***		(0.083)**		(0.096)		(0.109)		(0.114)	
Player 1 FE	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y
Sample FE	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Observations	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192
Respondents	596	596	596	596	596	596	596	596	596	596	596	596	596	596	596	596	596	596	596	596	596	596
Mean Dep. Var.	1.097	1.097	1.520	1.520	1.951	1.951	2.395	2.395	2.893	2.893	3.810	3.810	3.323	3.323	2.902	2.902	2.463	2.463	2.084	2.084	1.831	1.831
SD Dep. Var.	0.450	0.450	0.771	0.771	0.847	0.847	0.788	0.788	0.655	0.655	0.515	0.515	0.872	0.872	1.007	1.007	1.148	1.148	1.243	1.243	1.267	1.267
	Panel C: Both Samples																					
Player 2's Traditional Beliefs:																						
Strong or Very Strong	0.058	0.057	0.079	0.075	0.082	0.077	0.051	0.049	0.031	0.030	-0.079	-0.077	-0.116	-0.114	-0.117	-0.116	-0.111	-0.112	-0.153	-0.155	-0.183	-0.184
	[0.016]***	[0.015]***	[0.031]**	[0.021]***	[0.035]**	[0.022]***	[0.034]	[0.021]**	[0.029]	[0.020]	[0.022]***	[0.018]***	[0.034]***	[0.027]***	[0.041]***	[0.028]***	[0.049]**	[0.030]***	[0.054]***	[0.030]***	[0.057]***	[0.031]***
	(0.016)***	(0.022)***	(0.021)**	(0.030)***	(0.023)**	(0.032)***	(0.021)	(0.029)**	(0.020)	(0.028)	(0.019)***	(0.026)***	(0.027)***	(0.038)***	(0.028)***	(0.040)***	(0.030)**	(0.042)***	(0.030)***	(0.042)***	(0.031)***	(0.043)***
Player 1's Traditional Beliefs:																						
Strong or Very Strong	0.040		0.069		0.160		0.149		0.132		-0.008		-0.081		-0.094		-0.036		-0.062		-0.074	
	[0.016]**		[0.036]*		[0.042]***		[0.041]***		[0.035]***		[0.026]		[0.039]**		[0.048]**		[0.056]		[0.063]		[0.067]	
	(0.017)**		(0.044)*		(0.052)***		(0.052)***		(0.044)***		(0.030)		(0.046)**		(0.059)**		(0.072)		(0.082)		(0.087)	
Player 1 FE	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y
Sample FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Observations	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090
Respondents	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045
Mean Dep. Var.	1.069	1.069	1.469	1.469	1.914	1.914	2.363	2.363	2.846	2.846	3.788	3.788	3.415	3.415	3.038	3.038	2.624	2.624	2.285	2.285	2.056	2.056
SD Dep. Var.	0.373	0.373	0.720	0.720	0.797	0.797	0.782	0.782	0.669	0.669	0.509	0.509	0.802	0.802	0.963	0.963	1.134	1.134	1.262	1.262	1.333	1.333

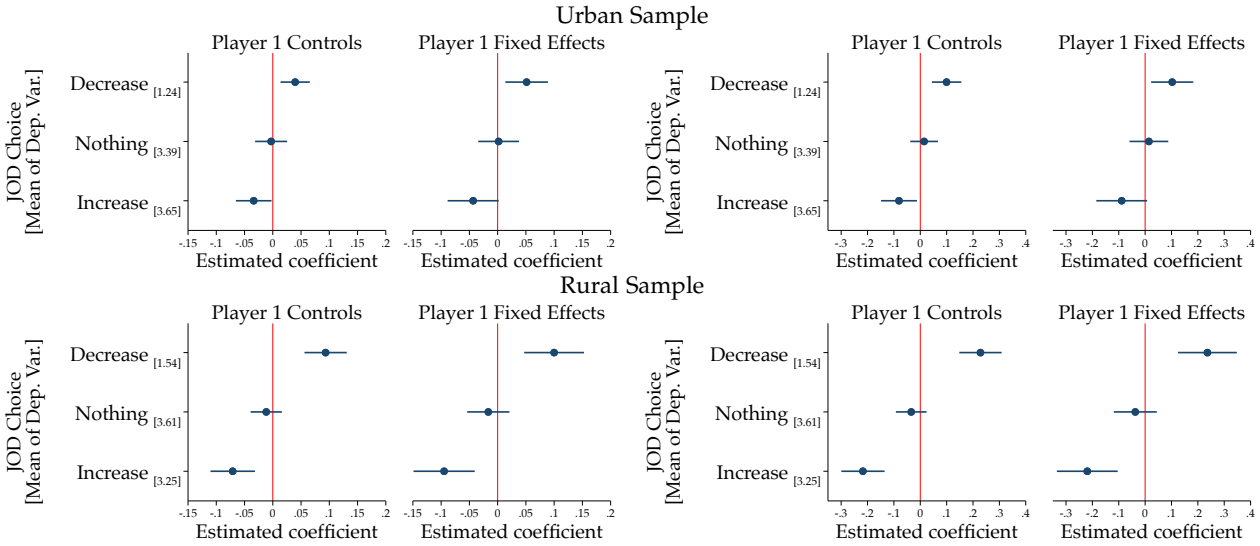
Notes: The data are stacked so that there are two observations per respondent for the two rounds of the DG. All columns include fixed effects for player 2 characteristics: gender, educational attainment, grew up in a rural area, strength of belief in Christian God, and same tribe as player 1. Odd-numbered columns include fixed effects for the equivalent player 1 characteristics. Even-numbered columns include player 1 fixed effects. *Appropriate to Send [...] CF* to Other player is a 1 to 4 variable, where (1) is very socially inappropriate, (2) is somewhat socially inappropriate, (3) is somewhat socially appropriate, and (4) is very socially appropriate. *Traditional Beliefs* is a variable from 1 to 4, where (1) is weak traditional beliefs, (2) neither weak nor strong traditional beliefs, (3) strong traditional beliefs, and (4) very strong traditional beliefs. All columns present the results with an indicator variable that equals 1 if an individual has strong or very strong traditional beliefs, where the omitted category is weak traditional beliefs or neither weak nor strong traditional beliefs. Robust standard errors are reported in []. Standard errors clustered at the individual level in (). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A15: Effect of Player 2's Traditional Beliefs on How Appropriate to Choose Player in CYD

	OLS, Dep. Var.: Appropriate to Choose Player, 1-4											
	Urban Sample				*Rural Sample*				*Both Samples*			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Player 2's Traditional Beliefs:												
Integer Measure, 1-4	-0.272	-0.286			-0.306	-0.323			-0.291	-0.307		
	[0.019]***	[0.020]***			[0.019]***	[0.020]***			[0.013]***	[0.014]***		
	(0.025)***	(0.029)***			(0.022)***	(0.027)***			(0.017)***	(0.020)***		
Strong or Very Strong			-0.712	-0.712			-0.750	-0.748			-0.735	-0.734
			[0.043]***	[0.044]***			[0.042]***	[0.042]***			[0.030]***	[0.030]***
			(0.058)***	(0.067)***			(0.051)***	(0.058)***			(0.038)***	(0.044)***
Player 1's Traditional Beliefs:												
Integer Measure, 1-4	-0.003				-0.014				-0.007			
	[0.021]				[0.020]				[0.014]			
	(0.020)				(0.019)				(0.014)			
Strong or Very Strong			-0.003				-0.061				-0.029	
			[0.050]				[0.051]				[0.036]	
			(0.046)				(0.050)				(0.035)	
Player 1 FE	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y
Sample FE	N	N	N	N	N	N	N	N	Y	Y	Y	Y
Observations	1,796	1,796	1,796	1,796	2,384	2,384	2,384	2,384	4,180	4,180	4,180	4,180
Respondents	449	449	449	449	596	596	596	596	1,045	1,045	1,045	1,045
Mean Dep. Var.	3.076	3.076	3.076	3.076	2.811	2.811	2.811	2.811	2.925	2.925	2.925	2.925
SD Dep. Var.	0.984	0.984	0.984	0.984	1.125	1.125	1.125	1.125	1.075	1.075	1.075	1.075

Notes: The table reports OLS estimates of equation 3. The data are stacked so that there are four observations per respondent, one corresponding to each person that they could choose between for the two rounds of the CYD. All columns include fixed effects for player 2 characteristics: gender, educational attainment, grew up in a rural area, strength of belief in Christian God, and same tribe as player 1. Odd-numbered columns include fixed effects for the equivalent player 1 characteristics. Even-numbered columns include player 1 fixed effects. *Appropriate to Choose Player* is a 1 to 4 variable, where (1) is very socially inappropriate, (2) is somewhat socially inappropriate, (3) is somewhat socially appropriate, and (4) is very socially appropriate. *Traditional Beliefs* is a variable from 1 to 4, where (1) is weak traditional beliefs, (2) neither weak nor strong traditional beliefs, (3) strong traditional beliefs, and (4) very strong traditional beliefs. Columns 1 and 2 present the results with traditional beliefs as a 1 to 4 variable. Columns 3 and 4 present the results with an indicator variable that equals 1 for strong or very strong traditional beliefs, where the omitted category is weak traditional beliefs or neither weak nor strong traditional beliefs. Robust standard errors are reported in []. Standard errors clustered at the individual level in (). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Figure A17: Effect of Player 2's Traditional Beliefs on How Appropriate Choices are in JOD



(a) Traditional Beliefs as a 1 to 4 integer

(b) Strong or V. Strong Traditional Beliefs

Notes: The figure reports OLS estimates of equation 3. The figure presents the effect of player 2's traditional beliefs on how appropriate each choice is in the JOD for the urban sample and rural sample. The three choices in the JOD are to decrease, do nothing, or increase the endowment of the other player. 'Appropriate' is a 1 to 4 variable, where (1) is very socially inappropriate, (2) is somewhat socially inappropriate, (3) is somewhat socially appropriate, and (4) is very socially appropriate. The mean value of appropriate for each choice is denoted in brackets. *Traditional Beliefs* is a variable from 1 to 4, where (1) is weak traditional beliefs, (2) neither weak nor strong traditional beliefs, (3) strong traditional beliefs, (4) very strong traditional beliefs. The subfigures in column (a) present the results with traditional beliefs as a 1 to 4 variable; the subfigures in column (b) present the results with traditional beliefs as an indicator variable equal to 1 for strong or very strong traditional beliefs. 'Player 1 Controls' denotes the specification with fixed effects for player 1 characteristics; 'Player 1 Fixed Effects' denotes the specification with player 1 fixed effects. Standard errors are clustered at the individual level.

Table A16: JOD Appropriate to Increase

	OLS, Dep. Var.: Appropriate to Increase in JOD					
	Urban Sample		*Rural Sample*		*Both Samples*	
	(1)	(2)	(3)	(4)	(5)	(6)
Player 2's Traditional Beliefs:						
Strong or Very Strong	-0.081	-0.089	-0.217	-0.219	-0.161	-0.163
	[0.044]*	[0.035]**	[0.055]***	[0.042]***	[0.037]***	[0.028]***
	(0.035)*	(0.049)**	(0.042)***	(0.059)***	(0.028)***	(0.040)***
Player 1's Traditional Beliefs:						
Strong or Very Strong	0.000		-0.195		-0.112	
	[0.050]		[0.067]***		[0.044]**	
	(0.058)		(0.083)***		(0.053)**	
Player 1 FE	N	Y	N	Y	N	Y
Sample FE	N	N	N	N	N	N
Observations	898	898	1,192	1,192	2,090	2,090
Respondents	449	449	596	596	1,045	1,045
Mean Dep. Var.	3.653	3.653	3.253	3.253	3.424	3.424
SD Dep. Var.	0.657	0.657	0.968	0.968	0.871	0.871

Notes: All columns include fixed effects for player 2 characteristics: gender, educational attainment, grew up in a rural area, strength of belief in Christian God, and same tribe as player 1. Odd-numbered columns include fixed effects for the equivalent player 1 characteristics. Even-numbered columns include player 1 fixed effects. *Appropriate to Increase the Endowment of Other Player* is a 1 to 4 variable, where (1) is very socially inappropriate, (2) is somewhat socially inappropriate, (3) is somewhat socially appropriate, and (4) is very socially appropriate. *Traditional Beliefs* is a variable from 1 to 4, where (1) is weak traditional beliefs, (2) neither weak nor strong traditional beliefs, (3) strong traditional beliefs, and (4) very strong traditional beliefs. All columns present the results with an indicator variable that equals 1 if an individual has strong or very strong traditional beliefs, where the omitted category is weak traditional beliefs or neither weak nor strong traditional beliefs. Robust standard errors are reported in []. Standard errors clustered at the individual level in (). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A17: JOD Appropriate to do Nothing

	OLS, Dep. Var.: Appropriate to Nothing in JOD					
	Urban Sample		*Rural Sample*		*Both Samples*	
	(1)	(2)	(3)	(4)	(5)	(6)
Player 2's Traditional Beliefs:						
Strong or Very Strong	0.014	0.014	-0.034	-0.037	-0.014	-0.016
	[0.046]	[0.026]	[0.039]	[0.029]	[0.030]	[0.020]
	(0.027)	(0.037)	(0.030)	(0.041)	(0.020)	(0.028)
Player 1's Traditional Beliefs:						
Strong or Very Strong	0.070		-0.040		0.021	
	[0.058]		[0.046]		[0.036]	
	(0.073)		(0.054)		(0.044)	
Player 1 FE	N	Y	N	Y	N	Y
Sample FE	N	N	N	N	N	N
Observations	898	898	1,192	1,192	2,090	2,090
Respondents	449	449	596	596	1,045	1,045
Mean Dep. Var.	3.385	3.385	3.608	3.608	3.512	3.512
SD Dep. Var.	0.696	0.696	0.680	0.680	0.695	0.695

Notes: All columns include fixed effects for player 2 characteristics: gender, educational attainment, grew up in a rural area, strength of belief in Christian God, and same tribe as player 1. Odd-numbered columns include fixed effects for the equivalent player 1 characteristics. Even-numbered columns include player 1 fixed effects. *Appropriate to Nothing the Endowment of Other Player* is a 1 to 4 variable, where (1) is very socially inappropriate, (2) is somewhat socially inappropriate, (3) is somewhat socially appropriate, and (4) is very socially appropriate. *Traditional Beliefs* is a variable from 1 to 4, where (1) is weak traditional beliefs, (2) neither weak nor strong traditional beliefs, (3) strong traditional beliefs, and (4) very strong traditional beliefs. All columns present the results with an indicator variable that equals 1 if an individual has strong or very strong traditional beliefs, where the omitted category is weak traditional beliefs or neither weak nor strong traditional beliefs. Robust standard errors are reported in []. Standard errors clustered at the individual level in (). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A18: JOD Appropriate to Decrease

	OLS, Dep. Var.: Appropriate to Decrease in JOD					
	Urban Sample		*Rural Sample*		*Both Samples*	
	(1)	(2)	(3)	(4)	(5)	(6)
Player 2's Traditional Beliefs:						
Strong or Very Strong	0.100	0.103	0.228	0.236	0.173	0.178
	[0.036]***	[0.029]***	[0.051]***	[0.040]***	[0.033]***	[0.026]***
	(0.028)***	(0.041)***	(0.041)***	(0.057)***	(0.026)***	(0.037)***
Player 1's Traditional Beliefs:						
Strong or Very Strong	-0.006		0.122		0.060	
	[0.042]		[0.059]**		[0.038]	
	(0.048)		(0.069)**		(0.044)	
Player 1 FE	N	Y	N	Y	N	Y
Sample FE	N	N	N	N	N	N
Observations	898	898	1,192	1,192	2,090	2,090
Respondents	449	449	596	596	1,045	1,045
Mean Dep. Var.	1.239	1.239	1.538	1.538	1.410	1.410
SD Dep. Var.	0.556	0.556	0.886	0.886	0.776	0.776

Notes: All columns include fixed effects for player 2 characteristics: gender, educational attainment, grew up in a rural area, strength of belief in Christian God, and same tribe as player 1. Odd-numbered columns include fixed effects for the equivalent player 1 characteristics. Even-numbered columns include player 1 fixed effects. *Appropriate to Decrease the Endowment of Other Player* is a 1 to 4 variable, where (1) is very socially inappropriate, (2) is somewhat socially inappropriate, (3) is somewhat socially appropriate, and (4) is very socially appropriate. *Traditional Beliefs* is a variable from 1 to 4, where (1) is weak traditional beliefs, (2) neither weak nor strong traditional beliefs, (3) strong traditional beliefs, and (4) very strong traditional beliefs. All columns present the results with an indicator variable that equals 1 if an individual has strong or very strong traditional beliefs, where the omitted category is weak traditional beliefs or neither weak nor strong traditional beliefs. Robust standard errors are reported in []. Standard errors clustered at the individual level in (). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

A.7. Conjunction Fallacy Scenarios and Additional Estimates

Food Scenario

- Papy is a 45-year-old man living in the city. His favorite food is goat and chikwanga. When he has the money, he tries to have this food at least twice a week. Is it more probable that Papy (1) is a carpenter (2) a carpenter who is a strong believer in bokoko or (3) a carpenter who is a strong believer in the Christian God?

Honest Scenarios

- Jean is driving his motorcycle. Out of nowhere, a chicken runs across his path. Jean tries to swerve to avoid hitting the chicken, but hits the chicken anyway, killing the chicken. Jean thinks that the chicken belongs to the household he is in front of. No one saw Jean hit the chicken. Jean goes to the household he is in front of to ask if they are the owner of the chicken. Is it more probable that Jean is (1) a married man or (2) a married man who is a strong believer in bokoko or (3) a married man who is a strong believer in the Christian God?

- Adrian is 35 years old. He lives in the city and sells airtime in the market. One day, a customer accidentally gives him 200 CF more than the price of the airtime. Adrian notices that the customer is walking away, so he calls after him so that he can return the extra money. Is it more probable that Adrian is a (1) married man or (2) a married who is a strong believer in bokoko or (3) a married man who is a strong believer in the Christian God?

Dishonest Scenarios

- Adrian is 35 years old. He lives in the city and sells airtime in the market. One day, a customer accidentally gives him 200 CF more than the price of the airtime. Adrian notices as the customer is walking away, but instead of notifying him, puts the money in his pocket to keep it. Is it more probable that Adrian is a (1) married man or (2) a married who is a strong believer in bokoko or (3) a married man who is a strong believer in the Christian God?

- Jean is driving his motorcycle. Out of nowhere, a chicken runs across his path. Jean tries to swerve to avoid hitting the chicken, but hits the chicken anyway, killing the chicken. Jean thinks that the chicken belongs to the household he is in front of. No one saw Jean hit the chicken. Jean drives away as fast as he can before anyone can notice what happened. Is it more probable that Jean is (1) a married man or (2) a married man who is a strong believer in bokoko or (3) a married man who is a strong believer in the Christian God?

Benevolent Scenarios

- Celestin is 22 years old. He just saw that his neighbor had a very successful harvest. Celestin's own harvest was very small. Despite his own misfortune, he is happy about his neighbor's success. Is it more probable that Celestin is (1) a single man or (2) a single man who is a strong believer in bokoko or (3) a single who is a strong believer in the Christian God?

- Fiston lives in the city and is 30 years old. He takes great joy in the success of others. If he thinks about the achievements of others, it makes him very happy. Is it more probable that Fiston is (1) a brickmaker or (2) a brickmaker who is a strong believer in bokoko or (3) a brickmaker who is a strong believer in the Christian God?

Jealous Scenarios

- Fiston lives in the city and is 30 years old. He is extremely jealous of the success of others. If he thinks about the achievements of others, it makes him very angry. Is it more probable that Fiston is (1) a brickmaker or (2) a brickmaker who is a strong believer in bokoko or (3) a brickmaker who is a strong believer in the Christian God?

- Celestin is 22 years old. He just saw that his neighbor had a very successful harvest. Celestin's own harvest was very small. He feels quite angry and jealous of his neighbor's success. Is it more probable that Celestin is (1) a single man or (2) a single man who is a strong believer in bokoko or (3) a single who is a strong believer in the Christian God?

Generous Scenarios

- Samuel is 40 years old and was born in the city. His neighbor's house was just robbed, and now his neighbor does not have the money needed to pay his children's school fees. Samuel has a little extra money, and he is happy to lend the money to his neighbor. Is it more probable that Samuel is (1) a mason or (2) a mason who is a strong believer in bokoko or (3) a mason who is a strong believer in the Christian God?

- Pierre lives in the city and is 55 years old. He is always helping out others, even when this comes at a cost to his own financial well-being. He always tries to help those who have less than him. Is it more probable that Pierre is (1) a taxi driver or (2) a taxi driver who is a strong believer in bokoko or (3) a taxi driver who is a strong believer in the Christian God?

Selfish Scenarios

- Pierre lives in the city and is 55 years old. He never helps others, especially when this comes at a cost to his own financial well-being. He never tries to help those who have less than him. Is it more probable that Pierre is (1) a taxi driver or (2) a taxi driver who is a strong believer in bokoko or (3) a taxi driver who is a strong believer in the Christian God?

- Samuel is 40 years old and was born in the city. His neighbor's house was just robbed, and now his neighbor does not have the money needed to pay his children's school fees. Samuel has a little extra money, but he does not want to lend the money to his neighbor. Is it more probable that Samuel is (1) a mason or (2) a mason who is a strong believer in bokoko or (3) a mason who is a strong believer in the Christian God?

Even Tempered Scenarios

- Sylvie is a 27-year-old living in the city. One day, she buys meat from a vendor in town. When she gets home, she realizes that the vendor has given her the spoilt meat rather than the fresh meat. Sylvie is very angry and decides to go back to the vendor to return the meat and get new meat. Therefore, she confronts the vendor and demands that he replace the meat. Is it more probable that Sylvie is (1) a married woman or (2) a married woman who is a strong believer in bokoko or (3) a married woman who is a strong believer in the Christian God?

- Miriam is 32 years old. One day, Miriam's neighbor lets his goats roam into Miriam's garden, where they eat some of her vegetables. Miriam is very angry and she decides to talk to her neighbor about what happened. Therefore, she goes to his house and explains to him that his goats have destroyed her vegetables. Is it more probable that Miriam is (1) a vendor at the market or (2) a vendor at the market who is a strong believer in bokoko or (3) a vendor at the market who is a strong believer in the Christian God?

Vindictive Scenarios

- Miriam is 32 years old. One day, Miriam's neighbor lets his goats roam into Miriam's garden, where they eat some of her vegetables. Miriam is very angry and decides to seek revenge against her neighbor. Therefore, she sneaks into his garden at night and destroys his garden. Is it more probable that Miriam is (1) a vendor at the market or (2) a vendor at the market who is a strong believer in bokoko or (3) a vendor at the market who is a strong believer in the Christian God?

- Sylvie is a 27-year-old living in the city. One day, she buys meat from a vendor in town. When she gets home, she realizes that the vendor has given her the spoilt meat rather than the fresh meat. Sylvie is very angry and decides to seek revenge against the vendor. Therefore, she sneaks into the market at night and destroys his stall. Is it more probable that Sylvie is (1) a married woman or (2) a married woman who is a strong believer in bokoko or (3) a married woman who is a strong believer in the Christian God?

Socially Included Scenarios

- Marie lives in the city and is 30 years old. Others view Marie very favorably. Those who know her are always happy to spend time with her. Is it more probable that Marie is (1) a farmer or (2) a farmer who is a strong believer in bokoko or (3) a farmer who is a strong believer in the Christian God?

- Ruth lives in a neighborhood of the city where most of the families are good friends with each other. Her neighbor's daughter is having a bride price ceremony. The neighbor invites almost everyone who lives nearby, including Ruth. Is it more probable that Ruth is (1) a cook or (2) a cook who is a strong believer in bokoko or (3) a cook who is a strong believer in the Christian God?

Socially Excluded Scenarios

- Ruth lives in a neighborhood of the city where most of the families are good friends with each other. Her neighbor's daughter is having a bride price ceremony. The neighbor invites almost everyone who lives nearby except for Ruth. Is it more probable that Ruth is (1) a cook or (2) a cook who is a strong believer in bokoko or (3) a cook who is a strong believer in the Christian God?

- Marie lives in the city and is 30 years old. Others view Marie very unfavorably. Those who know her dislike spending time with her. Is it more probable that Marie is (1) a farmer or (2) a farmer who is a strong believer in bokoko or (3) a farmer who is a strong believer in the Christian God?

Rich Scenarios

- Maurice is a 48-year-old living in the city. Every six months, he purchases a new pagne and asks someone to make him a new suit. Maurice is married and has 6 children. Maurice sent all his children to university. Is it more probable that Maurice is (1) a business owner or (2) a business owner who is a strong believer in bokoko or (3) a business owner who is a strong believer in the Christian God?

- Patrick is a 36-year-old living in the city. Patrick imports products from Kinshasa that he sells on the market in the city. He employs people who travel to the countryside to purchase agricultural products. Patrick also owns two trucks. Is it more probable that Patrick is (1) a married man or (2) a married who is a strong believer in bokoko or (3) a married who is a strong believer in the Christian God?

Poor Scenarios

- Patrick is a 36-year-old living in the city. Patrick sells fish on the market in the city. Patrick has very few customers for his fish, and it is hard for him to pay the school fees for his children. Is it more probable that Patrick is (1) a married man or (2) a married man who is a strong believer in bokoko or (3) a married man who is a strong believer in the Christian God?

- Maurice is a 48-year-old living in the city. Maurice has not purchased any new shoes for three years. Maurice is married and has 6 children. Maurice found ways to pay for the studies of his sons only. Is it more probable that Maurice is (1) a business owner or (2) a business owner who is a strong believer in bokoko or (3) a business owner who is a strong believer in the Christian God?

For completeness, we analyze the conjunction fallacy questions more formally by estimating the following equations:

$$Chosen^{l}_{io} = \beta^{l}_{1}\, Traditional_{o} + \beta^{l}_{2}\, Christian_{o} + \mathbf{X}^{l}_{i}\mathbf{\Phi}^{l} + \varepsilon^{l}_{io} \tag{A1}$$

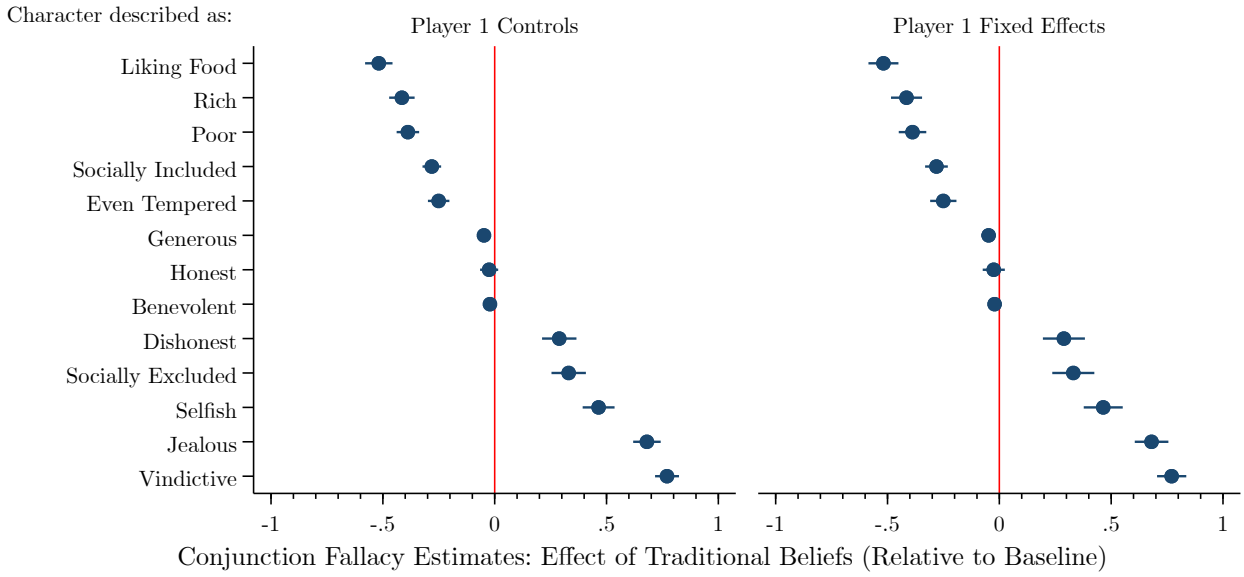
$$Chosen^{l}_{io} = \psi^{l}_{1}\, Traditional_{o} + \psi^{l}_{2}\, Christian_{o} + \alpha^{l}_{i} + \epsilon^{l}_{io}, \tag{A2}$$

where the unit of observation is an option o chosen by participant i when asked about a scenario that describes a trait l. The dependent variable, denoted $Chosen^{l}_{io}$, is an indicator variable that equals one if option o is chosen by participant i when asked about scenario l. As noted, when participants are asked about a scenario, they have three potential choices: (1) baseline characteristic only, (2) baseline characteristic and a believer in traditional beliefs, which implies an association between the described scenario and traditional beliefs, or (3) baseline characteristic and a believer in Christianity, which implies an association between the scenario and Christianity. The variable $Traditional_{o}$ is an indicator for option 2 and $Christian_{o}$ is an indicator for option 3. The omitted category is for option 1, where only the baseline characteristic is chosen, and no fallacy occurs. The coefficients of interest are β^{l}_{1} and ψ^{l}_{1}, which indicate the extent to which traditional religion was associated with trait l. $\mathbf{X}^{l}_{i}$ is a vector of fixed effects for the characteristics of participant i: age group, gender, education, from a rural area, strength of Christian beliefs, and strength of traditional beliefs, which are the same as those defined in equation (1). α^{l}_{i} denotes participant i fixed effects.

The estimates are summarized in Figure A18, which plots β^{l}_{1} and ψ^{l}_{1} for each scenario/trait l. The figure on the left reports estimates for equation (A1) and the right for equation (A2). Scenarios that describe individuals with positive traits tend to have a negative coefficient, which indicates that those traits are less likely to be associated with traditional beliefs. By contrast, scenarios that describe individuals with negative traits tend to have a positive coefficient, which indicates that they are more likely to be associated with traditional beliefs. In addition, for more neutral traits such as liking food, being rich, and being poor, the conjunction fallacy tends not to occur and, therefore, the estimated coefficient is negative. These results are because the omitted category is for the option where no conjunction fallacy occurs. Estimates with the omitted option being the case where a conjunction fallacy occurs and the implied association is with Christianity are

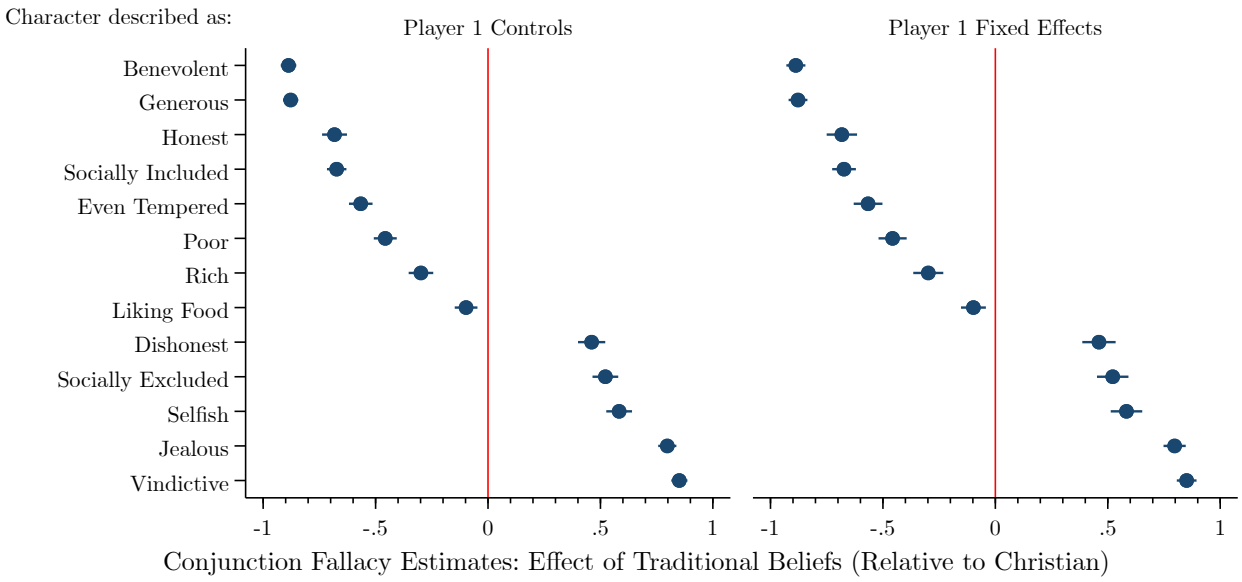
similar to those reported here, except that the estimates for liking food are very close to zero. For this trait, a conjunction fallacy tends not to occur, and when it does, there is as frequently an association with traditional beliefs as with Christianity. The estimates are reported in Appendix Figure A19.

Figure A18: Conjunction Fallacy Estimates



Notes: The conjunction fallacy scenarios described individuals with positive traits (e.g. benevolence), negative traits (e.g. dishonest), and neutral traits (e.g. likes food). The figure presents the estimated effect of traditional beliefs on the likelihood of being associated with various traits relative to the baseline characteristic in the conjunction fallacy scenarios. The first panel includes fixed effects for player 1 characteristics; the second panel includes player 1 fixed effects.

Figure A19: Conjunction Fallacy Estimates: Effect of Traditional Beliefs Relative to Christian Beliefs



Notes: The conjunction fallacy scenarios described individuals with positive traits (e.g. benevolence), negative traits (e.g. dishonest), and neutral traits (e.g. likes food). The figure presents the estimated effect of traditional beliefs on the likelihood of being associated with various traits in the conjunction fallacy scenarios. The first panel includes fixed effects for player 1 characteristics; the second panel includes player 1 fixed effects.

A.8. Generality and External Validity of Findings

Table A19: DG Estimates with Interactions Between Player 1's Traditional Beliefs and Player 2's Traditional Beliefs

	OLS, Dep. Var.: Amount Sent to Other Player (in CF)											
	Urban Sample				*Rural Sample*				*Both Samples*			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Player 2's Traditional Beliefs:												
Strong or Very Strong			-14.118	-10.838			-29.805	-32.313			-24.181	-22.512
			[21.302]	[13.379]			[23.651]	[17.476]*			[15.983]	[11.218]**
			(13.239)	(18.930)			(17.459)	(24.725)*			(11.178)	(15.869)**
Player 1's Traditional Beliefs:												
Integer Measure, 1-4	-9.935				-20.517				-16.142			
	[11.906]				[12.971]				[8.807]*			
	(9.869)				(10.940)				(7.383)*			
Strong or Very Strong			-4.334				-42.383				-25.498	
			[16.902]				[19.276]**				[12.929]**	
			(16.937)				(19.424)**				(13.015)**	
Interactions between Player 1's & Player 2's Traditional Beliefs:												
Integer Measure, 1-4	0.691	-2.723			3.911	4.427			2.605	1.249		
× Integer Measure, 1-4	[4.428]	[3.093]			[4.764]	[3.500]			[3.238]	[2.351]		
	(3.219)	(4.376)			(3.630)	(4.951)			(2.418)	(3.325)		
Strong or Very Strong			-21.585	-25.189			26.539	28.926			6.246	3.773
× Strong or Very Strong			[25.271]	[17.333]			[27.584]	[20.177]			[18.764]	[13.419]
			(17.238)	(24.524)			(20.214)	(28.547)			(13.404)	(18.982)
Player 1 FE	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y
Sample FE	N	N	N	N	N	N	N	N	Y	Y	Y	Y
Observations	1,040	1,040	1,040	1,040	1,200	1,200	1,200	1,200	2,240	2,240	2,240	2,240
Respondents	520	520	520	520	600	600	600	600	1,120	1,120	1,120	1,120
Mean Dep. Var.	468.9	468.9	468.9	468.9	437.7	437.7	437.7	437.7	452.2	452.2	452.2	452.2
SD Dep. Var.	181.6	181.6	181.6	181.6	213.6	213.6	213.6	213.6	199.9	199.9	199.9	199.9

Notes: All columns include fixed effects for player 2 characteristics: gender, educational attainment, grew up in a rural area, strength of belief in Christian God, and same tribe as player 1. Odd-numbered columns include fixed effects for the equivalent player 1 characteristics. Even-numbered columns include player 1 fixed effects. *Amount Sent to Other Player* is the amount player 1 sends to player 2 in an anonymous dictator game (in CF). *Traditional Beliefs* is a variable from 1 to 4, where (1) is weak traditional beliefs, (2) neither weak nor strong traditional beliefs, (3) strong traditional beliefs, and (4) very strong traditional beliefs. Columns 1, 2, 5, 6, 9, and 10 present the results with traditional beliefs as a 1 to 4 variable. Columns 3, 4, 7, 8, 11, and 12 present the results with an indicator variable that equals 1 if an individual has strong or very strong traditional beliefs, where the omitted category is weak traditional beliefs or neither weak nor strong traditional beliefs. Robust standard errors are reported in []. Standard errors clustered at the individual level in (). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A20: CYD Estimates with Interactions Between Player 1's Traditional Beliefs and Player 2's Traditional Beliefs

	OLS, Dep. Var.: Chose Player as Dictator											
	Urban Sample				*Rural Sample*				*Both Samples*			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Player 2's Traditional Beliefs:												
Integer Measure, 1-4	-0.137	-0.147			-0.047	-0.051			-0.085	-0.091		
	[0.027]***	[0.032]***			[0.024]*	[0.029]*			[0.018]***	[0.021]***		
	(0.039)***	(0.047)***			(0.033)*	(0.039)*			(0.025)***	(0.031)***		
Strong or Very Strong			-0.399	-0.399			-0.249	-0.249			-0.317	-0.316
			[0.039]***	[0.044]***			[0.037]***	[0.042]***			[0.027]***	[0.031]***
			(0.059)***	(0.068)***			(0.053)***	(0.061)***			(0.040)***	(0.046)***
Player 1's Traditional Beliefs:												
Integer Measure, 1-4	0.003				0.075				0.044			
	[0.022]				[0.021]***				[0.015]***			
	(0.030)				(0.025)***				(0.019)***			
Strong or Very Strong			-0.022				0.061				0.023	
			[0.032]				[0.031]**				[0.022]	
			(0.035)				(0.032)**				(0.023)	
Interactions between Player 1's & Player 2's Traditional Beliefs:												
Integer Measure, 1-4	-0.002	-0.001			-0.031	-0.032			-0.018	-0.019		
× Integer Measure, 1-4	[0.008]	[0.010]			[0.007]***	[0.009]***			[0.005]***	[0.006]***		
	(0.012)	(0.014)			(0.010)***	(0.012)***			(0.008)***	(0.009)***		
Strong or Very Strong			0.044	0.045			-0.129	-0.130			-0.050	-0.051
× Strong or Very Strong			[0.046]	[0.052]			[0.043]***	[0.048]***			[0.031]	[0.036]
			(0.070)	(0.081)			(0.062)***	(0.070)***			(0.046)	(0.053)
Player 1 FE	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y
Sample FE	N	N	N	N	N	N	N	N	Y	Y	Y	Y
Observations	2,080	2,080	2,080	2,080	2,400	2,400	2,400	2,400	4,480	4,480	4,480	4,480
Respondents	520	520	520	520	600	600	600	600	1,120	1,120	1,120	1,120
Mean Dep. Var.	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500
SD Dep. Var.	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500

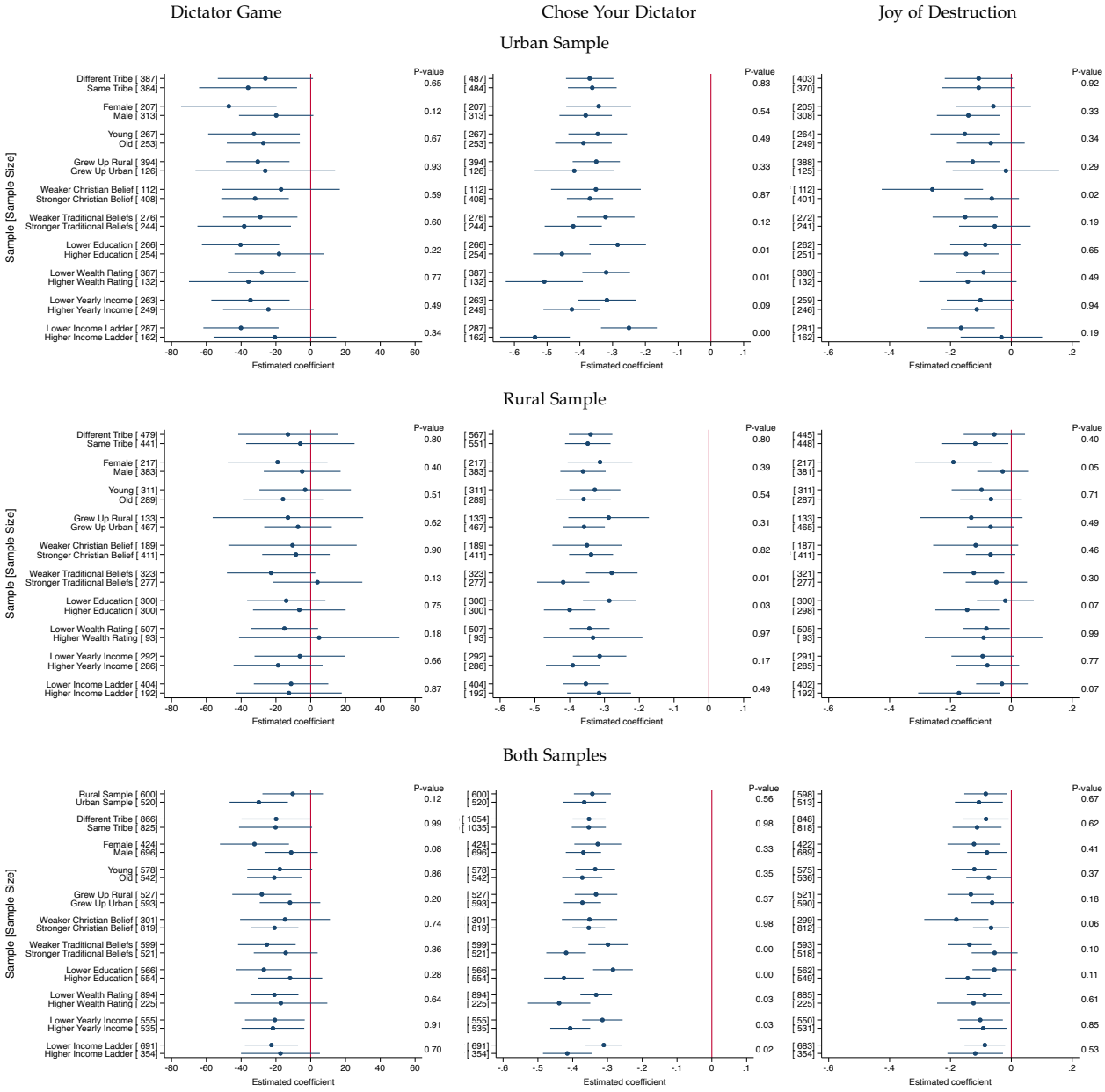
Notes: The data are stacked so that there are four observations per respondent, one corresponding to each person that they could choose between for the two rounds of the CYD. All columns include fixed effects for player 2 characteristics: gender, educational attainment, grew up in a rural area, strength of belief in Christian God, and same tribe as player 1. Odd-numbered columns include fixed effects for the equivalent player 1 characteristics. Even-numbered columns include player 1 fixed effects. *Chose Player as Dictator* is an indicator variable equal to 1 if this player was selected. *Traditional Beliefs* is a variable from 1 to 4, where (1) is weak traditional beliefs, (2) neither weak nor strong traditional beliefs, (3) strong traditional beliefs, and (4) very strong traditional beliefs. Columns 1, 2, 5, 6, 9, and 10 present the results with traditional beliefs as a 1 to 4 variable. Columns 3, 4, 7, 8, 11, and 12 present the results with an indicator variable that equals 1 if an individual has strong or very strong traditional beliefs, where the omitted category is weak traditional beliefs or neither weak nor strong traditional beliefs. Robust standard errors are reported in []. Standard errors clustered at the individual level in (). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A21: JOD Estimates with Interactions Between Player 1's Traditional Beliefs and Player 2's Traditional Beliefs

	OLS, Dep. Var.: Choice in JOD											
	Urban Sample				*Rural Sample*				*Both Samples*			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Player 2's Traditional Beliefs:												
Integer Measure, 1-4	-0.131	-0.147			-0.125	-0.128			-0.130	-0.137		
	[0.055]**	[0.054]***			[0.048]***	[0.047]***			[0.036]***	[0.035]***		
	(0.052)**	(0.077)***			(0.044)***	(0.066)***			(0.034)***	(0.050)***		
Strong or Very Strong												
Player 1's Traditional Beliefs:												
Integer Measure, 1-4	-0.059				-0.130				-0.100			
	[0.045]				[0.041]***				[0.031]***			
	(0.044)				(0.039)***				(0.029)***			
Strong or Very Strong			-0.031				-0.199				-0.118	
			[0.065]				[0.062]***				[0.045]***	
			(0.065)				(0.062)***				(0.045)***	
Interactions between Player 1's & Player 2's Traditional Beliefs:												
Integer Measure, 1-4	0.030	0.036			0.027	0.027			0.029	0.031		
× Integer Measure, 1-4	[0.017]*	[0.017]**			[0.015]*	[0.014]*			[0.011]**	[0.011]***		
	(0.016)*	(0.024)**			(0.014)*	(0.020)*			(0.010)**	(0.015)***		
Strong or Very Strong			0.146	0.166			0.135	0.152			0.140	0.158
× Strong or Very Strong			[0.093]	[0.085]*			[0.087]	[0.080]*			[0.064]**	[0.058]***
			(0.086)	(0.120)*			(0.081)	(0.113)*			(0.058)**	(0.082)***
Player 1 FE	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y
Sample FE	N	N	N	N	N	N	N	N	Y	Y	Y	Y
Observations	1,022	1,022	1,022	1,022	1,190	1,190	1,190	1,190	2,212	2,212	2,212	2,212
Respondents	513	513	513	513	598	598	598	598	1,111	1,111	1,111	1,111
Mean Dep. Var.	0.164	0.164	0.164	0.164	0.081	0.081	0.081	0.081	0.119	0.119	0.119	0.119
SD Dep. Var.	0.674	0.674	0.674	0.674	0.685	0.685	0.685	0.685	0.681	0.681	0.681	0.681

Notes: All columns include fixed effects for player 2 characteristics: gender, educational attainment, grew up in a rural area, strength of belief in Christian God, and same tribe as player 1. Odd-numbered columns include fixed effects for the equivalent player 1 characteristics. Even-numbered columns include player 1 fixed effects. *Choice in JOD* takes the value of -1 if player 1 chooses to decrease the endowment of player 2, 0 if player 1 chooses to do nothing, and 1 if player 1 chooses to increase the endowment of player 2. *Traditional Beliefs* is a variable from 1 to 4, where (1) is weak traditional beliefs, (2) neither weak nor strong traditional beliefs, (3) strong traditional beliefs, and (4) very strong traditional beliefs. Columns 1 and 2 present the results with traditional beliefs as a 1 to 4 variable. Columns 3 and 4 present the results with fixed effects for the traditional beliefs of players 1 and 2, where the omitted category is weak traditional beliefs. Columns 1, 2, 5, 6, 9, and 10 present the results with traditional beliefs as a 1 to 4 variable. Columns 3, 4, 7, 8, 11, and 12 present the results with an indicator variable that equals 1 if an individual has strong or very strong traditional beliefs, where the omitted category is weak traditional beliefs or neither weak nor strong traditional beliefs. Robust standard errors are reported in []. Standard errors clustered at the individual level in (). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

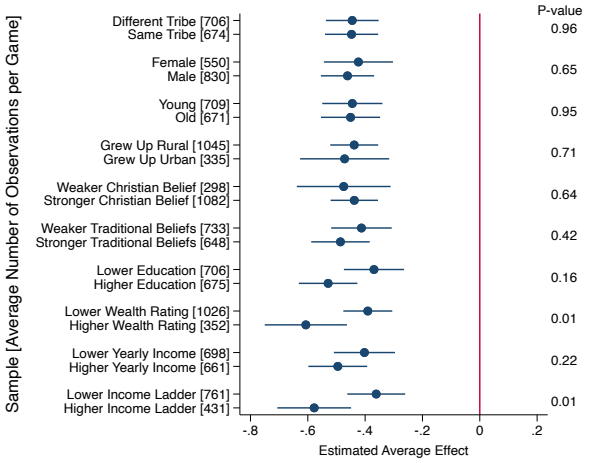
Figure A20: Heterogeneity of Estimates by Player 1 Characteristics and by Game



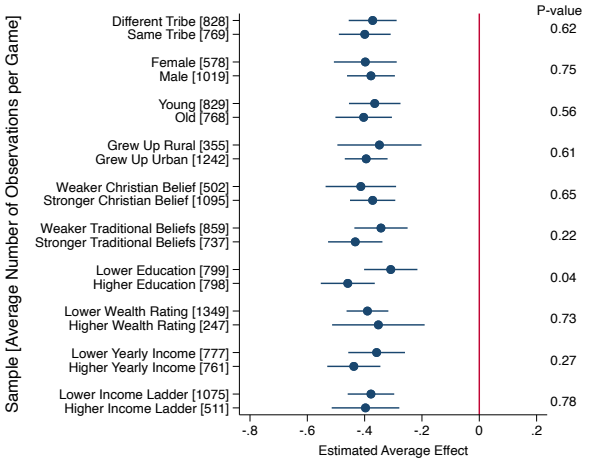
Notes: We report the coefficient and 95% confidence intervals for the effect of player 2's Traditional Beliefs for each game. We partition the sample by different player 1 characteristics. We partition the sample at the median value for continuous variables and at the value that creates the most even split for categorical variables. We report the coefficient for each partitioned subsample. The left y-axis labels specify the partitioned subsamples with the number of observations in each group in []. The right y-axis reports the p-value for the null hypothesis that the coefficients of the two samples are equal.

Figure A21: Heterogeneity of Estimates by Player 1 Characteristics: With Player 1 Fixed Effects

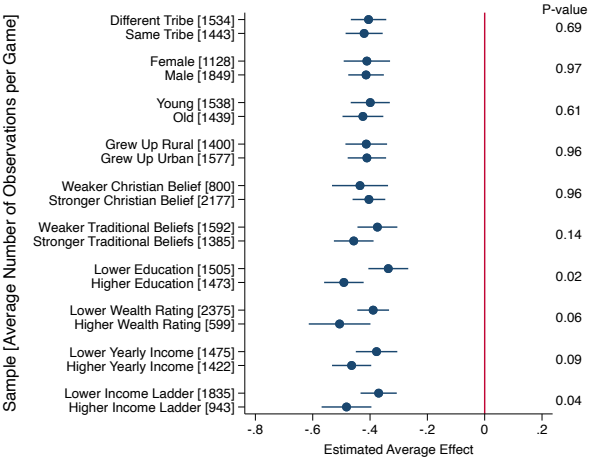
(a) Urban Sample



(b) Rural Sample



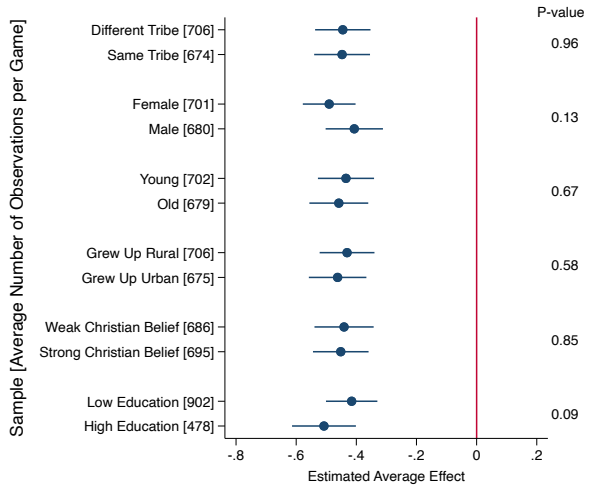
(c) Both Samples



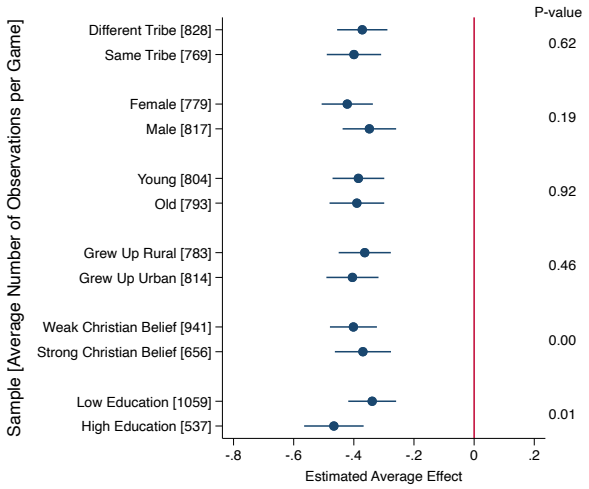
Notes: We report the coefficient and 95% confidence intervals for the average effect of player 2's Traditional Beliefs across all games. The estimated specification is a version of equation (1) with standard errors clustered at the respondent level. We partition the sample by different player 1 characteristics. We partition the sample at the median value for continuous variables and at the value that creates the most even split for categorical variables. We report the coefficient for each partitioned subsample. The left y-axis labels specify the partitioned subsamples with the number of observations in each group in []. The right y-axis reports the p-value for the null hypothesis that the coefficients of the two samples are equal.

Figure A22: Heterogeneity of Estimates by Player 2 Characteristics

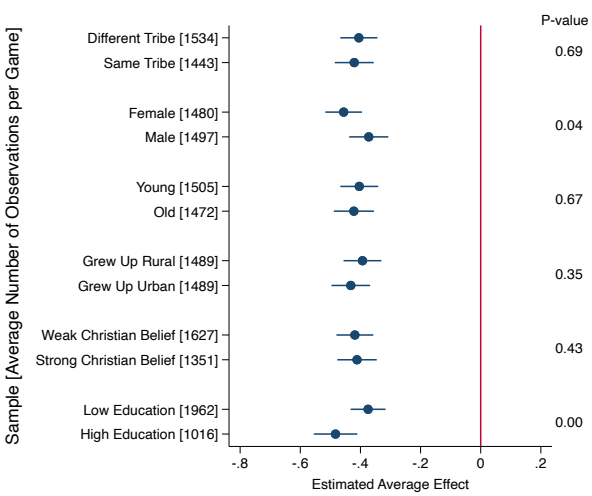
(a) Urban Sample



(b) Rural Sample

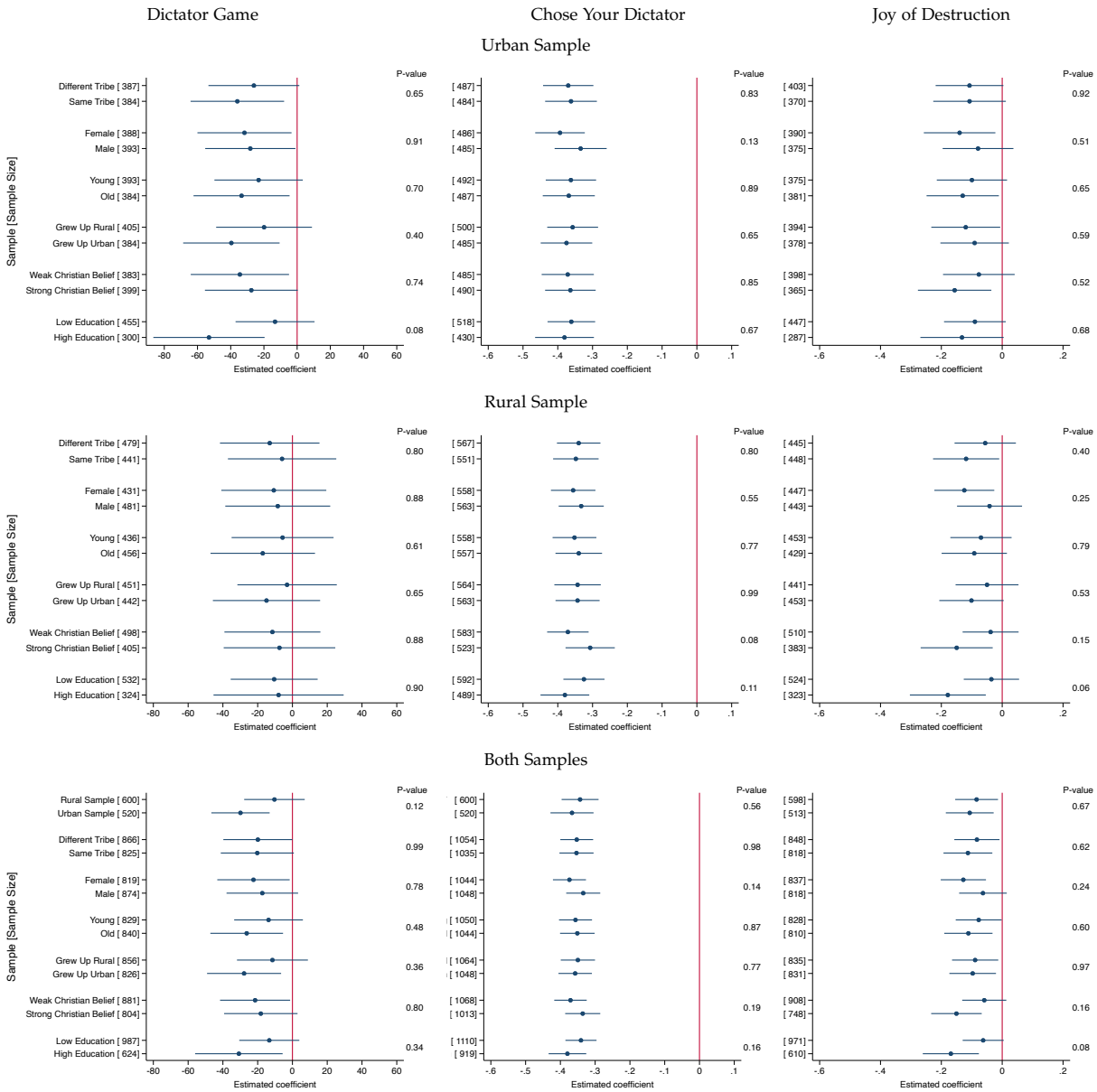


(c) Both Samples



Notes: We report the coefficient and 95% confidence intervals for the average effect of player 2's Traditional Beliefs across all games. The estimated specification is a version of equation (1) with standard errors clustered at the respondent level. We partition the sample by different player 2 characteristics. We partition the sample at the median value for continuous variables and at the value that creates the most even split for categorical variables. We report the coefficient for each partitioned subsample. The left y-axis labels specify the partitioned subsamples with the number of observations in each group in []. The right y-axis reports the p-value for the null hypothesis that the coefficients of the two samples are equal.

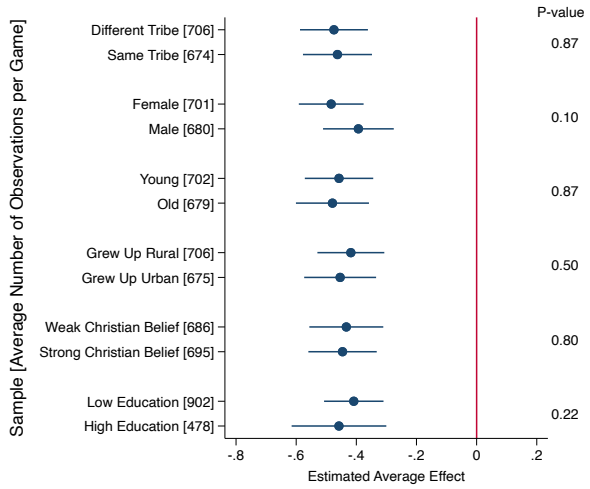
Figure A23: Heterogeneity of Estimates by Player 2 Characteristics and by Game



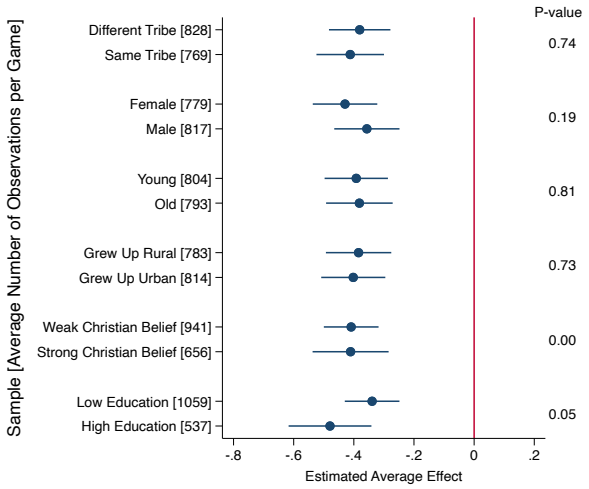
Notes: We report the coefficient and 95% confidence intervals for the effect of player 2's Traditional Beliefs for each game. We partition the sample by different player 1 characteristics. We partition the sample at the median value for continuous variables and at the value that creates the most even split for categorical variables. We report the coefficient for each partitioned subsample. The left y-axis labels specify the partitioned subsamples with the number of observations in each group in []. The right y-axis reports the p-value for the null hypothesis that the coefficients of the two samples are equal.

Figure A24: Heterogeneity of Estimates by Player 2 Characteristics: With Player 1 Fixed Effects

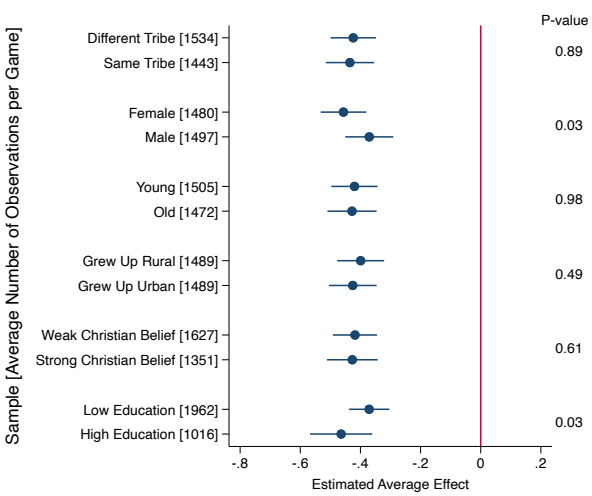
(a) Urban Sample



(b) Rural Sample



(c) Both Samples



Notes: We report the coefficient and 95% confidence intervals for the average effect of player 2's Traditional Beliefs across all games. The estimated specification is a version of equation (1) with standard errors clustered at the respondent level. We partition the sample by different player 2 characteristics. We partition the sample at the median value for continuous variables and at the value that creates the most even split for categorical variables. We report the coefficient for each partitioned subsample. The left y-axis labels specify the partitioned subsamples with the number of observations in each group in []. The right y-axis reports the p-value for the null hypothesis that the coefficients of the two samples are equal.

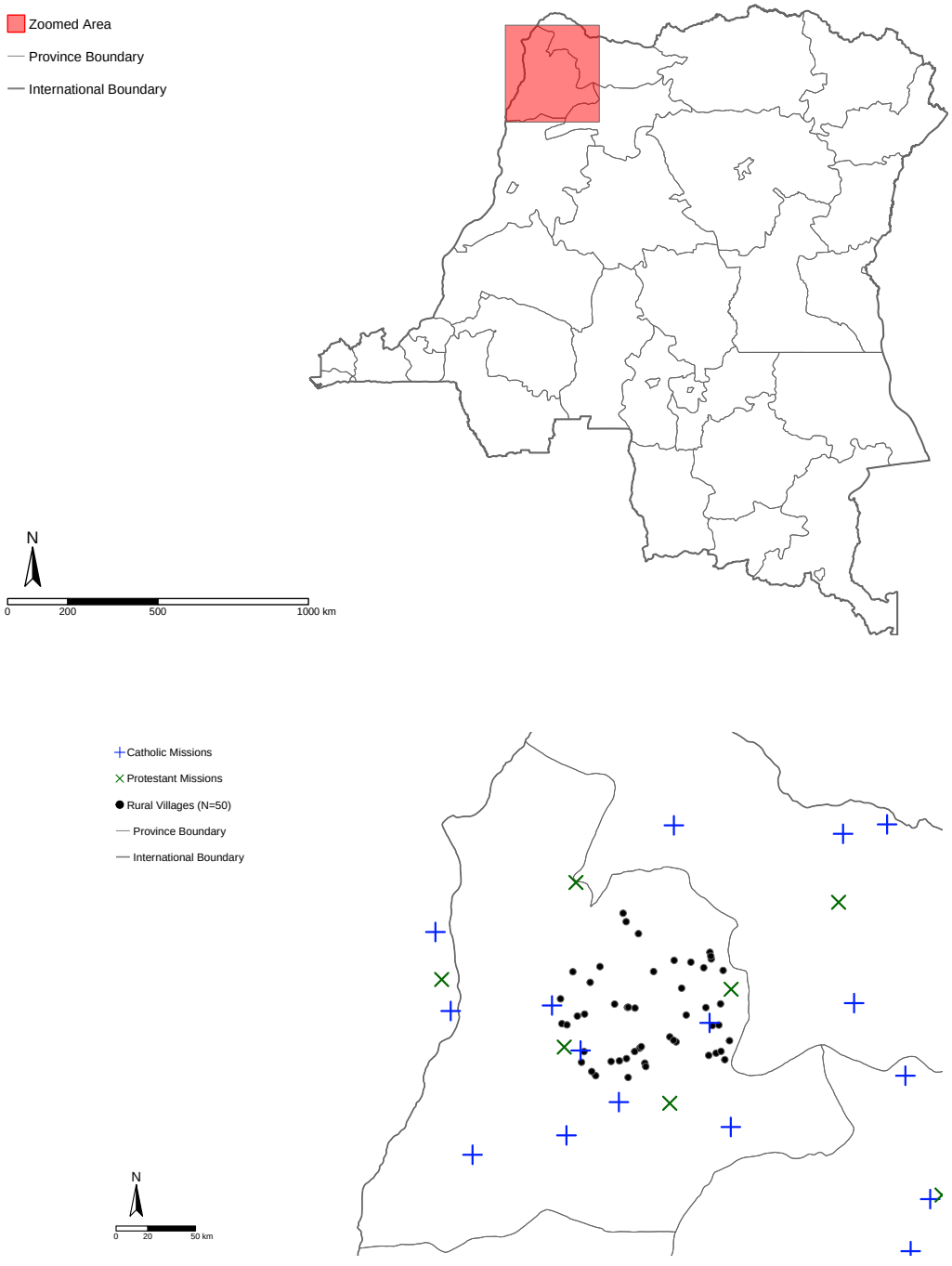
Table A22: Witchcraft Beliefs and Economic Well-being

	OLS, Dep. Var.:											
	ln(1+Annual Household Income)		*ln(1+ Per Capita Annual Income)*		*Satisfied with standard of living (0/1)*		*Living comfortably on present income [0-1]*		*Life Evaluation Index [0-1]*		*Average Effect Size (AES)*	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Panel A											
Witchcraft Belief	-0.096***	-0.090***	-0.120***	-0.114***	-0.060***	-0.057***	-0.025***	-0.023***	-0.021***	-0.020***	-0.092***	-0.086***
	(0.013)	(0.013)	(0.013)	(0.013)	(0.005)	(0.005)	(0.003)	(0.003)	(0.002)	(0.002)	(0.007)	(0.006)
	Panel B											
Witchcraft Belief	0.031	0.036	0.006	0.010	-0.049***	-0.046***	0.003	0.005	-0.016***	-0.015***	-0.016	-0.011
	(0.026)	(0.026)	(0.026)	(0.026)	(0.009)	(0.009)	(0.006)	(0.006)	(0.004)	(0.004)	(0.013)	(0.013)
Witchcraft Belief	-0.309***	-0.305***	-0.306***	-0.302***	-0.027	-0.027	-0.071***	-0.071***	-0.014*	-0.014*	-0.185***	-0.184***
× **ln(GDP per capita) [0-1]**	(0.055)	(0.055)	(0.057)	(0.056)	(0.020)	(0.020)	(0.014)	(0.014)	(0.008)	(0.008)	(0.028)	(0.028)
	Panel C											
Witchcraft Belief	0.048*	0.054**	0.024	0.029	-0.030***	-0.027***	0.002	0.004	-0.004	-0.003	-0.007	-0.001
	(0.027)	(0.027)	(0.027)	(0.027)	(0.010)	(0.010)	(0.007)	(0.007)	(0.004)	(0.004)	(0.013)	(0.013)
Witchcraft Belief	-0.267***	-0.265***	-0.267***	-0.263***	-0.056***	-0.057***	-0.052***	-0.052***	-0.033***	-0.033***	-0.156***	-0.157***
× **Prim. Completion % [0-1]**	(0.047)	(0.046)	(0.047)	(0.047)	(0.017)	(0.017)	(0.012)	(0.012)	(0.007)	(0.007)	(0.023)	(0.023)
Demographic Controls	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y
Country-Wave FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Observations	46,605	46,605	46,605	46,605	50,401	50,401	50,040	50,040	48,495	48,495	45,061	45,061
Number of Countries	30	30	30	30	34	34	34	34	33	33	30	30
Mean Dep. Var.	7.888	7.888	6.285	6.285	0.398	0.398	0.412	0.412	0.452	0.452	0.000	0.000
SD Dep. Var.	1.342	1.342	1.391	1.391	0.489	0.489	0.329	0.329	0.195	0.195	1.000	1.000

Notes: The table reports OLS estimates in columns (1)-(10) and Average Effect Size (AES) estimates in columns (11) and (12) (Kling, Liebman, Katz and Sanbonmatsu, 2004). All specifications include country-wave fixed effects. *Witchcraft Belief* is an indicator variable equal to 1 if the individual answered "Yes" to the question "Do you believe in witchcraft?" and 0 if they answered "No". The witchcraft data are from Gallup (2009 and 2011, waves 4 and 6). *ln(GDP per capita) [0-1]* is the GDP per capita of a country in 2016 as reported in the World Bank Data Bank, normalized to be between 0 and 1. These data were downloaded from the World Bank Data Bank at https://data.worldbank.org/indicator/NY.GDP.PCAP.KD. *Primary Completion [0-1]* is the share of individuals who have completed primary school as reported in the World Bank Data Bank, normalized to be between 0 and 1. These data were downloaded from the World Bank Data Bank at https://data.worldbank.org/indicator/SE.PRM.CMPT.ZS. *ln(1+Annual Household Income)* is the natural log of 1 plus the household income. *ln(1+ Per Capita Annual Income)* is the natural log of 1 plus the household income divided by household size. *Satisfied with Standard of Living (0/1)* is an indicator variable equal to 1 if an individual reports being satisfied with their standard of living. *Living comfortably on present income [0-1]* is increasing in the extent to which the individual feels they are living comfortably on present income. *Life Evaluation Index [0-1]* is increasing in the individual's perceived ranking of their life. *Demographic controls* include age, age squared, gender, and their interactions. In columns 1–10, robust standard errors are reported in (). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

A.9. Heterogeneity by Christian Exposure

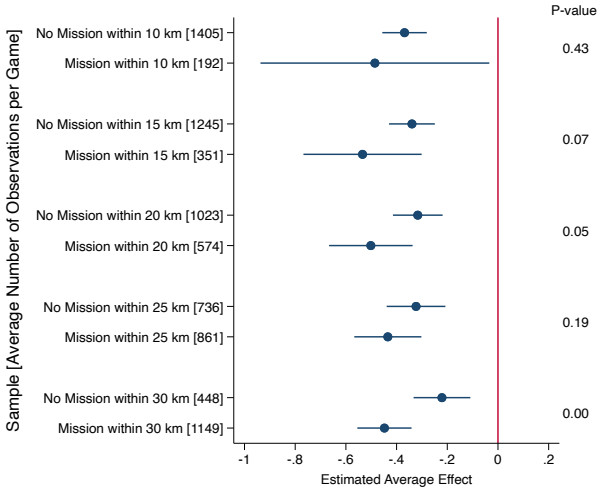
Figure A25: Catholic and Protestant Missions and Rural Sample



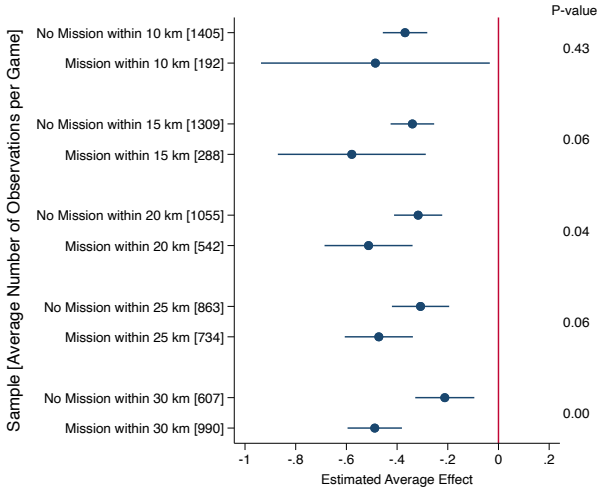
Notes: The figures present (a) a map of DRC, the province boundaries, and the study area of interest denoted in red and (b) a map of Catholic and Protestant missions (Mantnieks, 1951) and the rural villages in the sample. Catholic missions are marked by blue crosses and Protestant missions by green x's.

Figure A26: Heterogeneity of Estimates by Player 1's Exposure to Christian Missions: With Player 1 Fixed Effects

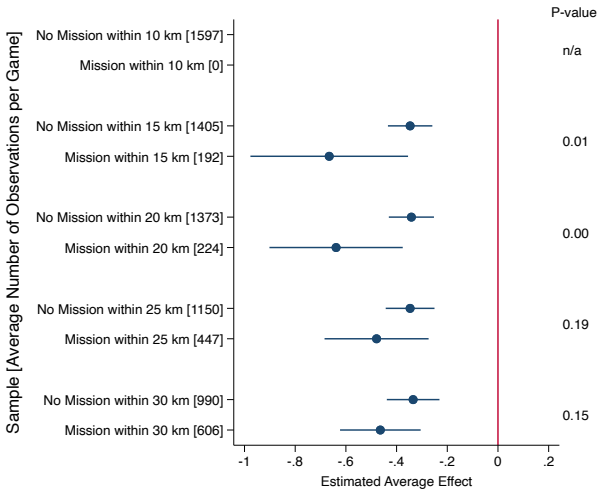
(a) Any Mission



(b) Catholic Mission



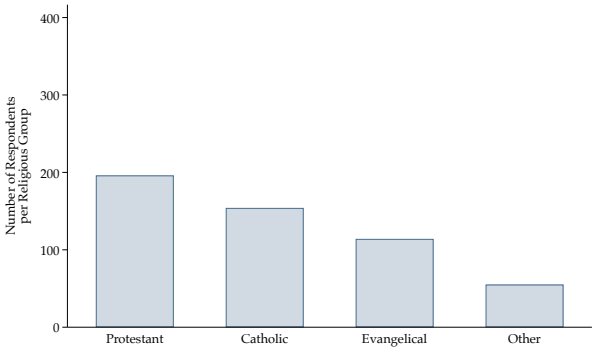
(c) Protestant Mission



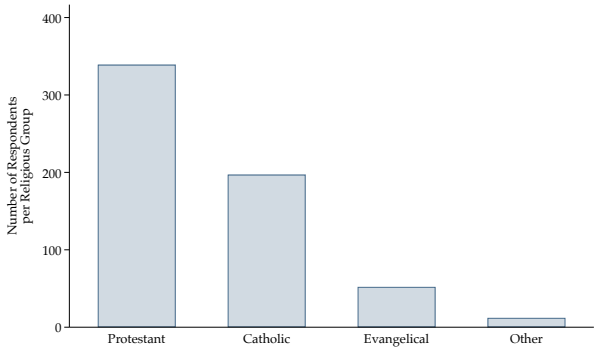
Notes: We report the coefficient and 95% confidence intervals for the average effect of player 2's Traditional Beliefs across all games. The estimated specification is a version of equation (1) with standard errors clustered at the individual level. We partition the sample by different measures of proximity to Christian missions. We report the coefficients using different definitions of proximity to a Christian mission: having or not having a mission within 10, 15, 20, 25, or 30 kilometers. We report the coefficient for each partitioned subsample. The left y-axis labels specify the partitioned subsamples with the number of observations in each group in []. The right y-axis reports the p-value for the null hypothesis that the coefficients of the two samples are equal.

Figure A27: Religious Denominations, by Sample

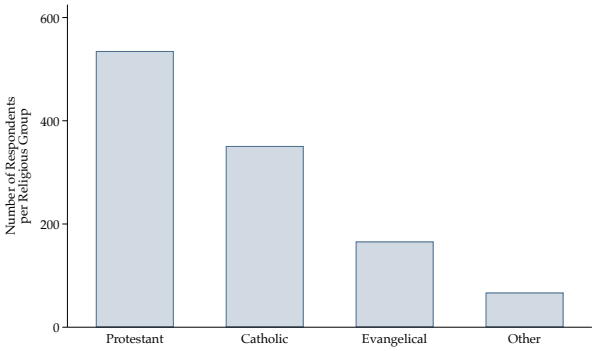
(a) Urban Sample



(b) Rural Sample



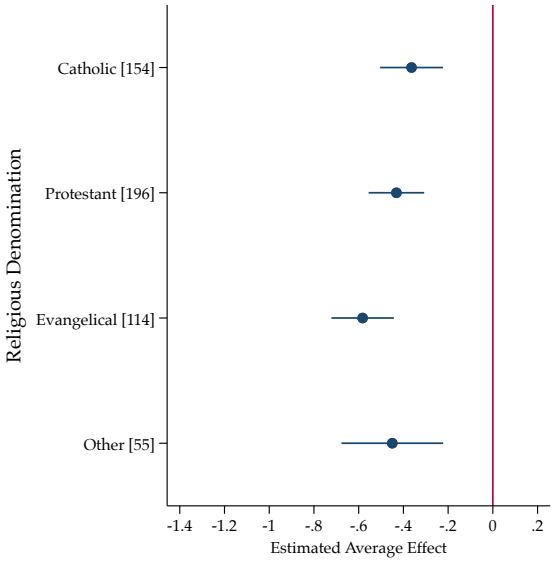
(c) Both Samples



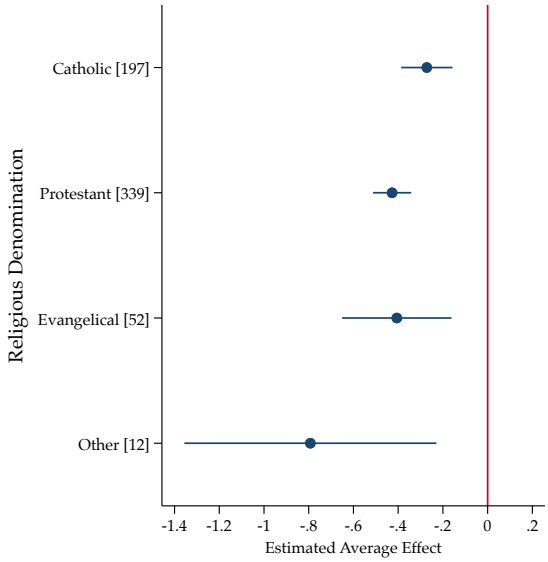
Notes: The figure illustrates the distribution of religious denominations across (a) the urban sample, (b) the rural sample, and (c) both samples. Respondents identified as Protestant, Catholic, Pentecostal/Born-again, or other religious affiliations. The vertical axis represents the total number of respondents within each religious group.

Figure A28: Heterogeneity of Estimates by Player 1 Characteristics: Religious Denomination

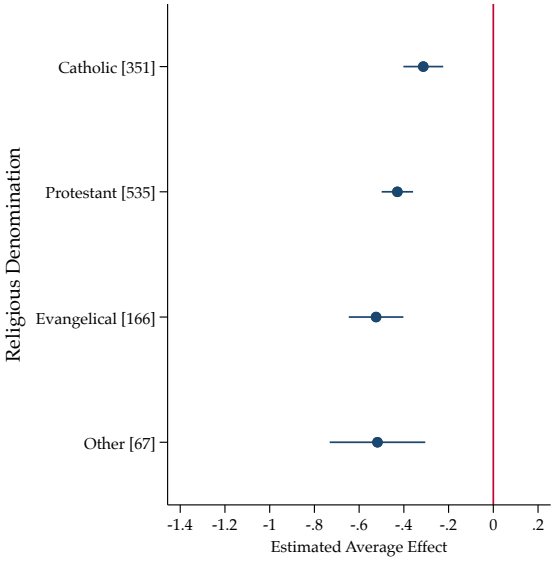
(a) Urban Sample



(b) Rural Sample



(c) Both Samples



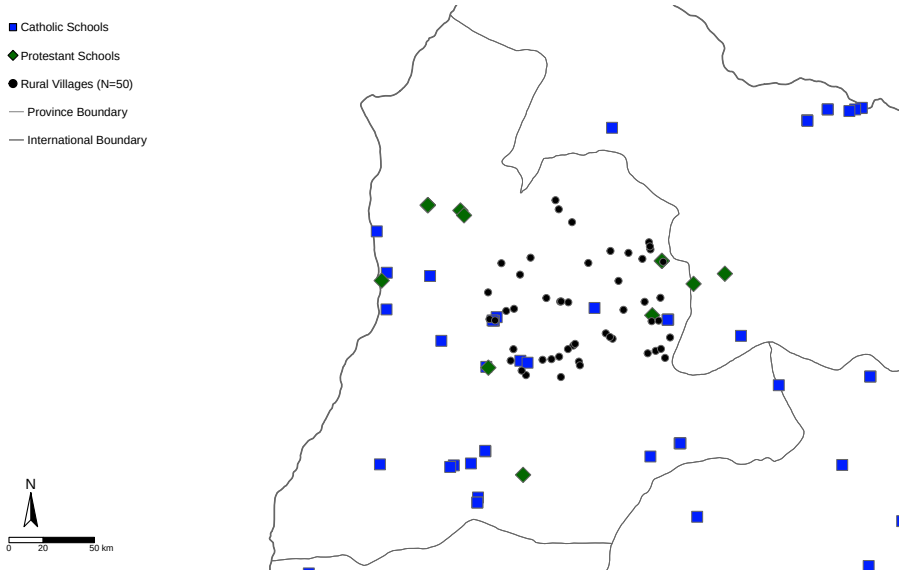
Notes: We report the coefficient and 95% confidence intervals for the average effect of player 2's Traditional Beliefs across all games. The estimated specification is a version of equation (1) with standard errors clustered at the respondent level. We partition the sample by player 1's religious denomination. The left y-axis labels specify the partitioned subsamples with the number of observations in each group in [].

Table A23: Heterogeneity by Village-Level Exposure to Christianity

	OLS, Dep. Var.: Average Effect Size			
	(1)	(2)	(3)	(4)
Player 2's Traditional Beliefs:				
	Panel A: Distance to Any mission index, [0-1]			
Strong or Very Strong	-0.417***	-0.418***		
× Inv. Distance	(0.135)	(0.144)		
Strong or Very Strong			-0.420***	-0.418**
× ln(Inv. Distance)			(0.153)	(0.163)
	Panel B: Distance to Catholic mission index, [0-1]			
Strong or Very Strong	-0.530***	-0.531***		
× Inv. Distance	(0.137)	(0.146)		
Strong or Very Strong			-0.504***	-0.503***
× ln(Inv. Distance)			(0.154)	(0.164)
	Panel C: Distance to Protestant mission index, [0-1]			
Strong or Very Strong	-0.297**	-0.299**		
× Inv. Distance	(0.120)	(0.128)		
Strong or Very Strong			-0.333***	-0.335**
× ln(Inv. Distance)			(0.123)	(0.131)
Player 1 FE	N	Y	N	Y
Observations	4,790	4,790	4,790	4,790
Number of Clusters	600	600	600	600
Mean Dep. Var.	0.000	0.000	0.000	0.000
SD Dep. Var.	1.000	1.000	1.000	1.000

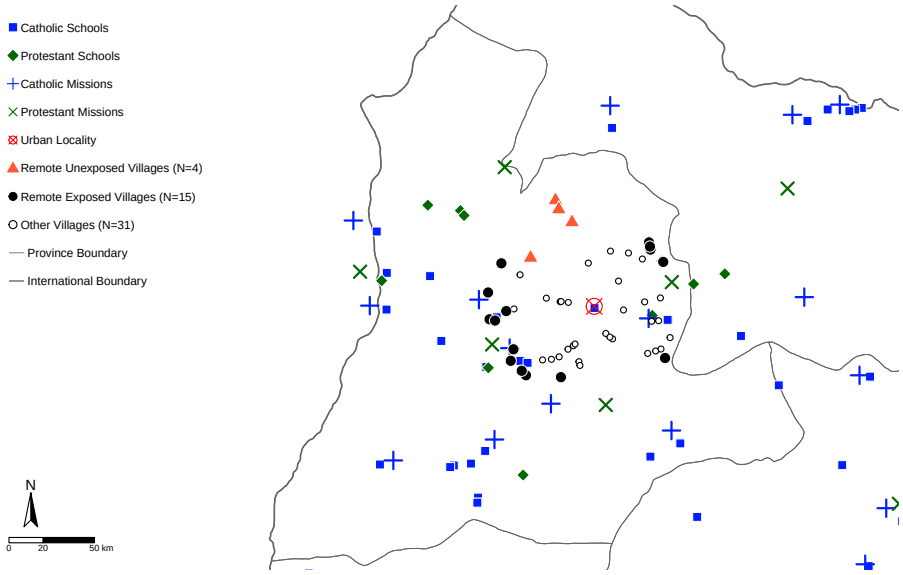
Notes: This analysis only includes the rural sample. Standard errors are clustered at the respondent level in []. All columns include the control for the relevant village level measure of Christian exposure. All measures of Christian exposure are normalized to [0-1]. This table only reports the coefficient on the interaction between player 2 traditional beliefs and the measure of Christian exposure. All columns include fixed effects for Player 2 characteristics: sex, educational attainment, grew up in rural area, strength of belief in Christian God, and same tribe as Player 1. Odd-numbered columns include fixed effects for the equivalent Player 1 characteristics. Even-numbered columns include Player 1 fixed effects. *Strong or Very Strong* is an indicator variable equal to 0 for weak traditional beliefs or neither weak nor strong traditional beliefs and equal to 1 for strong traditional beliefs or very strong traditional beliefs. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Figure A29: Catholic and Protestant Colonial Schools and Rural Sample



Notes: The figures present (a) a map of DRC, the province boundaries, and the study area of interest denoted in red and (b) a map of Catholic and Protestant schools (primary and secondary) as of 1951 and the rural villages in the sample. Source: 2018 census of schools of the Democratic Republic of the Congo.

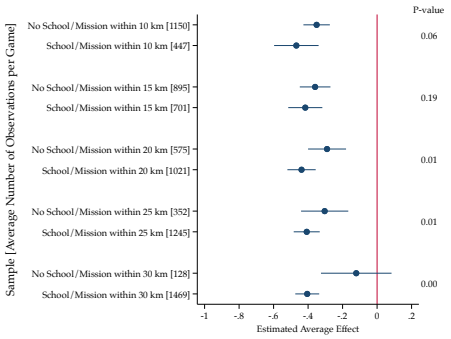
Figure A30: Remote Exposed and Remote Unexposed Villages



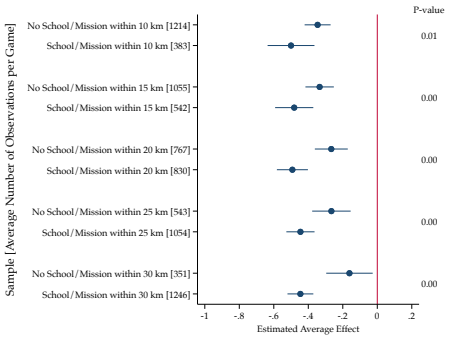
Notes: The figures present (a) a map of the Democratic Republic of the Congo (DRC), highlighting province boundaries and the specific study area indicated in red; and (b) a detailed map illustrating Catholic and Protestant missions (Mantnieks, 1951), locations of Catholic and Protestant colonial schools, sampled rural villages classified by exposure (remote exposed, remote unexposed, and other villages), and the urban locality within Northern DRC. Colonial school locations are sourced from the 2018 geo-referenced national census of all schools in the DRC. International boundaries and provincial boundaries are depicted for reference.

Figure A31: Heterogeneous Effects by Historical Exposure to Nearest Colonial School or Mission

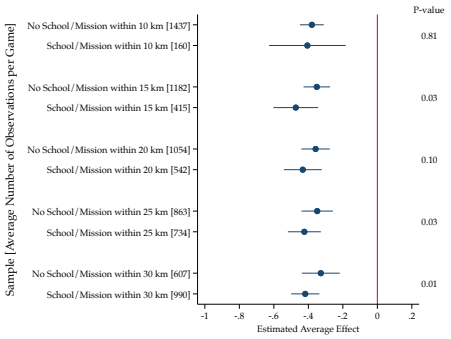
(a) Any Colonial School Opening< 1951 or Mission



(b) Catholic School Opening< 1951 or Mission

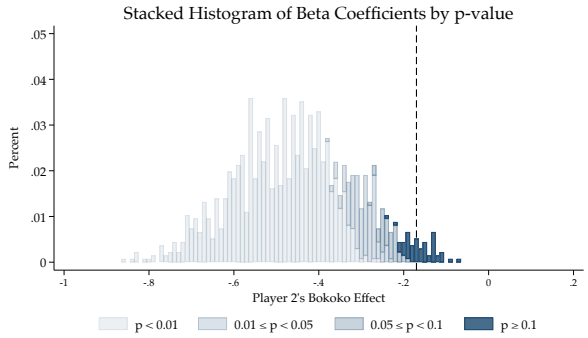


(c) Protestant School Opening< 1951 or Mission

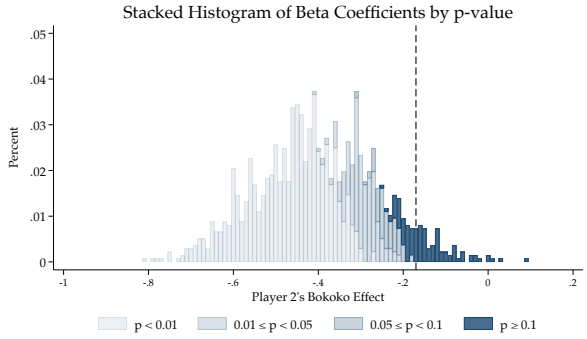


Notes: We report the coefficient and 95% confidence intervals for the average effect of player 2's Traditional Beliefs across all games. The estimated specification is a version of equation (1) with standard errors clustered at the respondent level. We partition the sample based on proximity (within radii of 10, 15, 20, 25, and 30 km) to either historical Christian missions or colonial schools. Each subgroup's average treatment effect is shown separately. The left y-axis labels specify the partitioned subsamples with the number of observations in each group in []. The right y-axis reports the p-value for the null hypothesis that the coefficients of the two samples are equal.

Figure A32: Distribution of Effects for Random Sets of 4 Villages



(a) Combinations of 4 Villages Among 15 Remote Villages



(b) Combinations of 4 Villages Among 46 Villages

Notes: We report the distribution of the estimated coefficients for the average effect of Player 2's Traditional Beliefs across all games. Different shades of blue indicate varying levels of statistical significance, with darker shades corresponding to smaller p-values. The estimated specification is a version of equation (1), with standard errors clustered at the respondent level. Figure (a) presents estimates for the 1,365 unique combinations of four villages drawn from the 15 (exposed but remote) villages that are within 30 kilometers of missionary activity but located 49–69 kilometers from the local urban center. Figure (b) reports analogous estimates for a random sample of 1,365 combinations of four villages selected from the 46 (exposed) villages that are less than 30 kilometers of a mission station or school. For comparison, the dashed vertical line reports the estimate for the four (unexposed) villages that are more than 30 kilometers from a historical mission station or school.

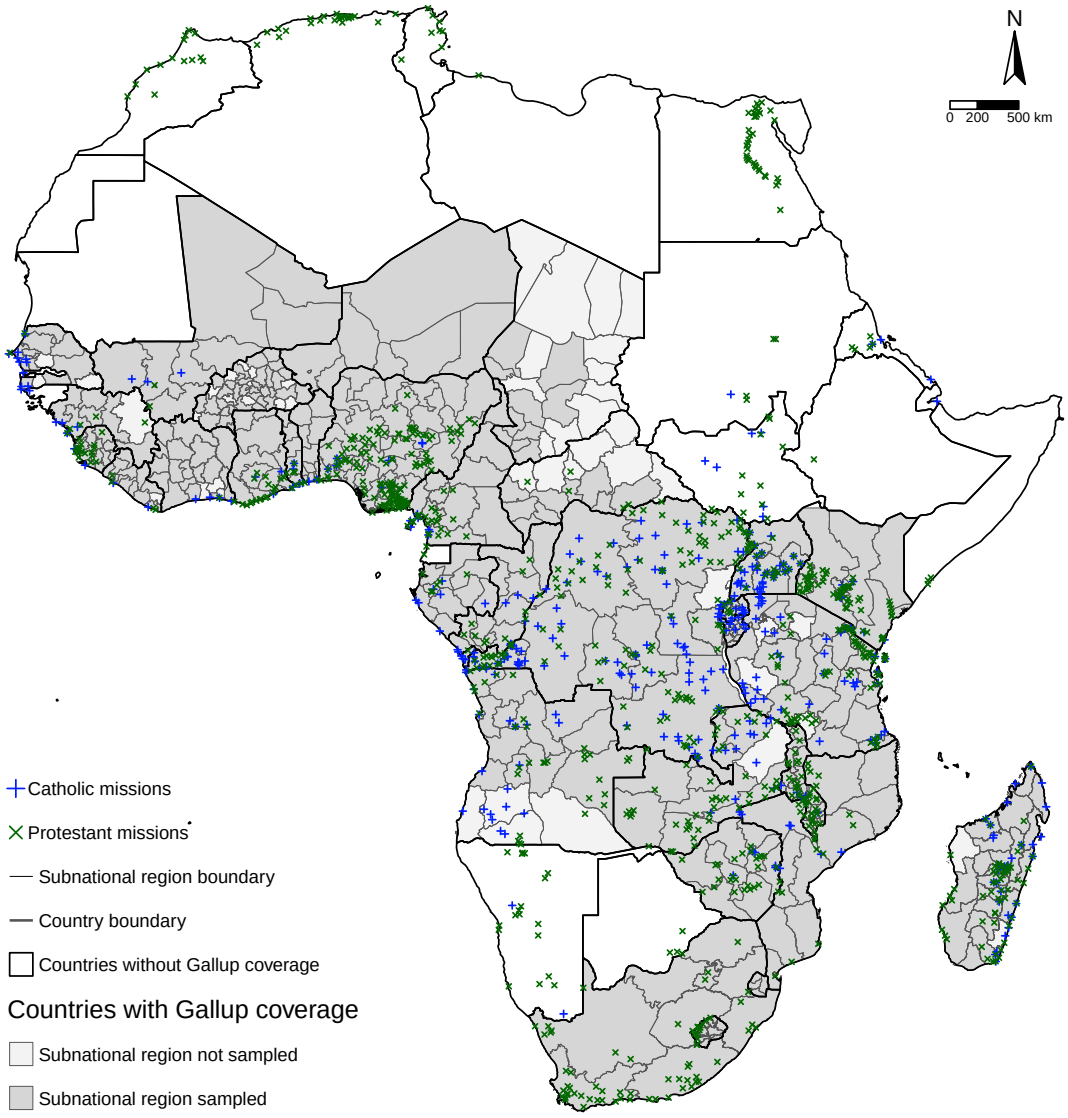
A.10. Cross-Africa Analyses

We use several data sources for our cross-Africa analyses. These data sources are:

- Pew data: The data are from the Sub-Saharan Africa Religion Survey (2008 and 2009) and the World's Muslims Survey (2011 and 2012). These data are available at https://www.pewresearch.org/religion/international-religion-survey-data/.
- Gallup World Poll Data: The data are from 2009 and 2011, corresponding to waves 4 and 6.
- World Bank GDP per capita data: These data were downloaded from the World Bank Data Bank at https://data.worldbank.org/indicator/NY.GDP.PCAP.KD.
- World Bank primary completion rates data: These data were downloaded from the World Bank Data bank at https://data.worldbank.org/indicator/SE.PRM.CMPT.ZS
- Christian mission data I: The Christian mission data are from Roome (1924).
- Christian mission data II: The Christian mission data from Congo are from Mantnieks (1951).
- Colonial schools data: The colonial schools data comes from the 2018 comprehensive census of schools in the Democratic Republic of the Congo. Data collection took place between 2018 and 2022, with financial support from the World Bank. The census covered all types of schools, including kindergarten, primary, and secondary institutions. The dataset includes the construction dates of schools. For our purposes, we define colonial schools as those built before 1951, the year of our reference map of Christian missions in Congo (Ministère de l'Education Nationale et de la Nouvelle Citoyenneté, 2018).
- Afrobarometer data: The data are from the Afrobarometer 6th, 7th, 8th, and 9th rounds (Afrobarometer, 2024).
- Traditional territories of ethnic groups: Information on the boundaries of the traditional territories of ethnic groups is taken from the map from Murdock (1959), which was digitized by Nunn (2008).

A.10.1. Gallup Data

Figure A33: Regions Surveyed in Gallup & Catholic and Protestant Missions



Notes: The map presents the countries that are covered in the Gallup sample (2009 and 2011) in gray. The regions within a country that are sampled are in dark grey and those that are not sampled are denoted in light gray. The location of Christian missions, taken from Roome (1924), are also reported. Catholic missions are marked by blue crosses and Protestant missions by green x's.

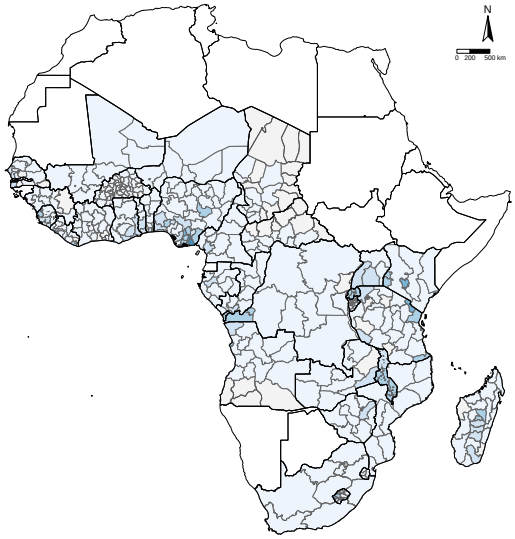
Table A24: Witchcraft Beliefs, Mission Stations, and Importance of Witch Doctors

	OLS, Dep. Var.: Witch Doctors are Important to the Community: Disagree 0; Agree 1									
	10 km Buffer		*15 km Buffer*		*20 km Buffer*		*25 km Buffer*		*30 km Buffer*	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Panel A: Missionary Exposure									
Share of land within [...] km of a mission [0-1]	-0.024***	-0.024***	-0.028***	-0.027***	-0.031***	-0.031***	-0.035***	-0.034***	-0.038***	-0.038***
	(0.008)	(0.008)	(0.008)	(0.008)	(0.009)	(0.009)	(0.010)	(0.010)	(0.010)	(0.010)
	Panel B: Missionary Exposure and Witchcraft Belief									
Witchcraft Belief	0.193***	0.193***	0.193***	0.193***	0.193***	0.193***	0.193***	0.193***	0.193***	0.193***
	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)
Share of land within [...] km of a mission [0-1]	-0.021**	-0.020**	-0.024***	-0.024***	-0.028***	-0.027***	-0.031***	-0.031***	-0.035***	-0.034***
	(0.008)	(0.008)	(0.009)	(0.009)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
	Panel C: Missionary Exposure, Witchcraft Belief, and Interaction									
Witchcraft Belief	0.194***	0.193***	0.194***	0.193***	0.194***	0.193***	0.194***	0.193***	0.194***	0.193***
	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.018)	(0.018)	(0.018)	(0.018)	(0.018)
Share of land within [...] km of a mission [0-1]										
× **Witchcraft Belief = 0**	-0.012	-0.011	-0.011	-0.011	-0.012	-0.011	-0.013	-0.012	-0.016	-0.016
	(0.010)	(0.010)	(0.012)	(0.012)	(0.013)	(0.013)	(0.014)	(0.014)	(0.014)	(0.014)
× **Witchcraft Belief = 1**	-0.029***	-0.028***	-0.036***	-0.035***	-0.042***	-0.041***	-0.047***	-0.046***	-0.049***	-0.048***
	(0.010)	(0.010)	(0.011)	(0.011)	(0.011)	(0.011)	(0.012)	(0.012)	(0.012)	(0.012)
Demographic Controls	N	Y	N	Y	N	Y	N	Y	N	Y
Country FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Observations	16,247	16,234	16,247	16,234	16,247	16,234	16,247	16,234	16,247	16,234
Number of Countries	17	17	17	17	17	17	17	17	17	17
Number of Clusters	191	191	191	191	191	191	191	191	191	191
Mean Dep. Var.	0.255	0.255	0.255	0.255	0.255	0.255	0.255	0.255	0.255	0.255
SD Dep. Var.	0.436	0.436	0.436	0.436	0.436	0.436	0.436	0.436	0.436	0.436

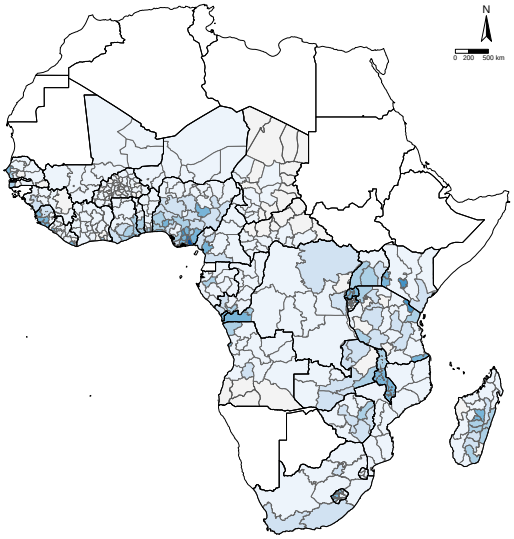
Notes: The table reports OLS estimates. The survey question is: *Do you agree or disagree with the following statements? Witch doctors are important members of the community?*. The response options are "Agree" (assigned a value of 1) and "Disagree" (assigned a value of 0). An observation is an individual. All specifications include country fixed effects. *Witchcraft Belief* is an indicator variable equal to 1 if the individual answered "Yes" to the question "Do you believe in witchcraft?" and 0 if they answered "No". The witchcraft data are from Gallup (2009 and 2011, waves 4 and 6). *Demographic controls* include age, age squared, gender, and their interactions. Every specification controls for a region's share of land within [...] km of a mission [0-1]. Robust standard errors clustered at the subnational region level in (). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Figure A34: Distribution of Gallup Subnational Regions' Area within [XX] km of a Mission

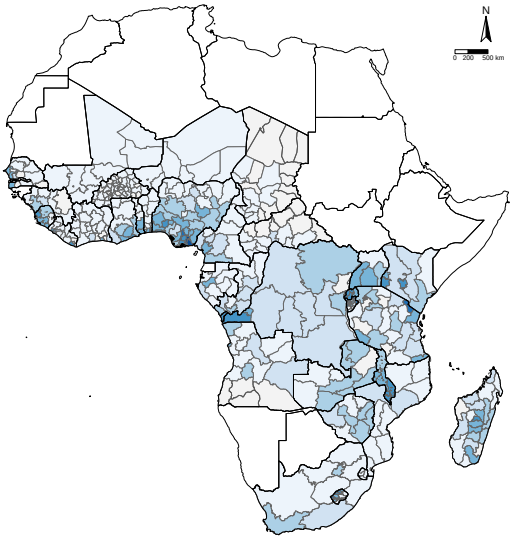
(a) Area within 10 km of a Mission



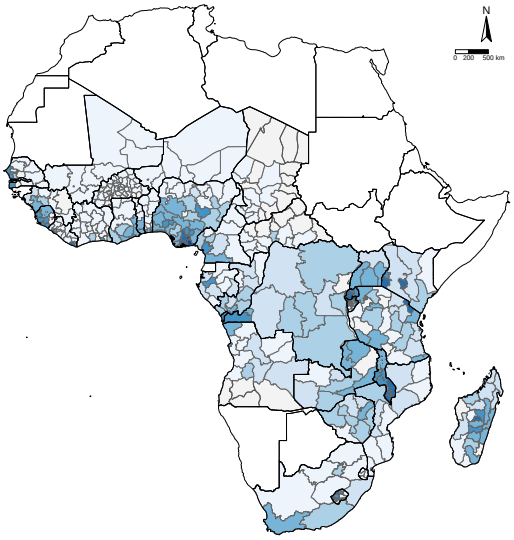
(b) Area within 15 km of a Mission



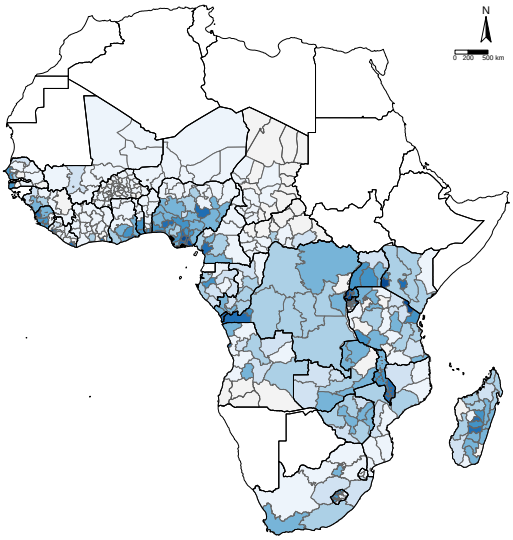
(c) Area within 20 km of a Mission



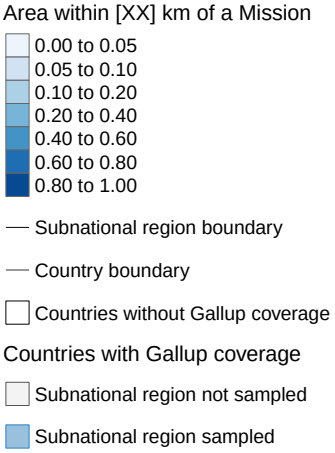
(d) Area within 25 km of a Mission



(e) Area within 30 km of a Mission



(f) Area within 30 km of a Mission



A.10.2. Afrobarometer Data

Sample Selection in Afrobarometer: We apply several restrictions to the Afrobarometer sample to ensure consistency and data completeness. First, we drop all observations missing information on either the respondent's or the enumerator's age or gender. Second, we exclude respondents who self-identify with non-African ethnic origins, specifically those identifying as European, German, Asian, British, English, Chinese, Portuguese, French, Indian, or Iranian. Third, we remove respondents with missing information on religious affiliation, including those who refused to answer or selected "Don't know". Finally, we exclude any respondent for whom at least one of the six enumerator-reported exit questions is missing.

Identifying African Traditional Religions: Afrobarometer Survey: We identify African Traditional Religions from the question "What is your religion, if any?". We consider African Traditional Religions the following reported religions:

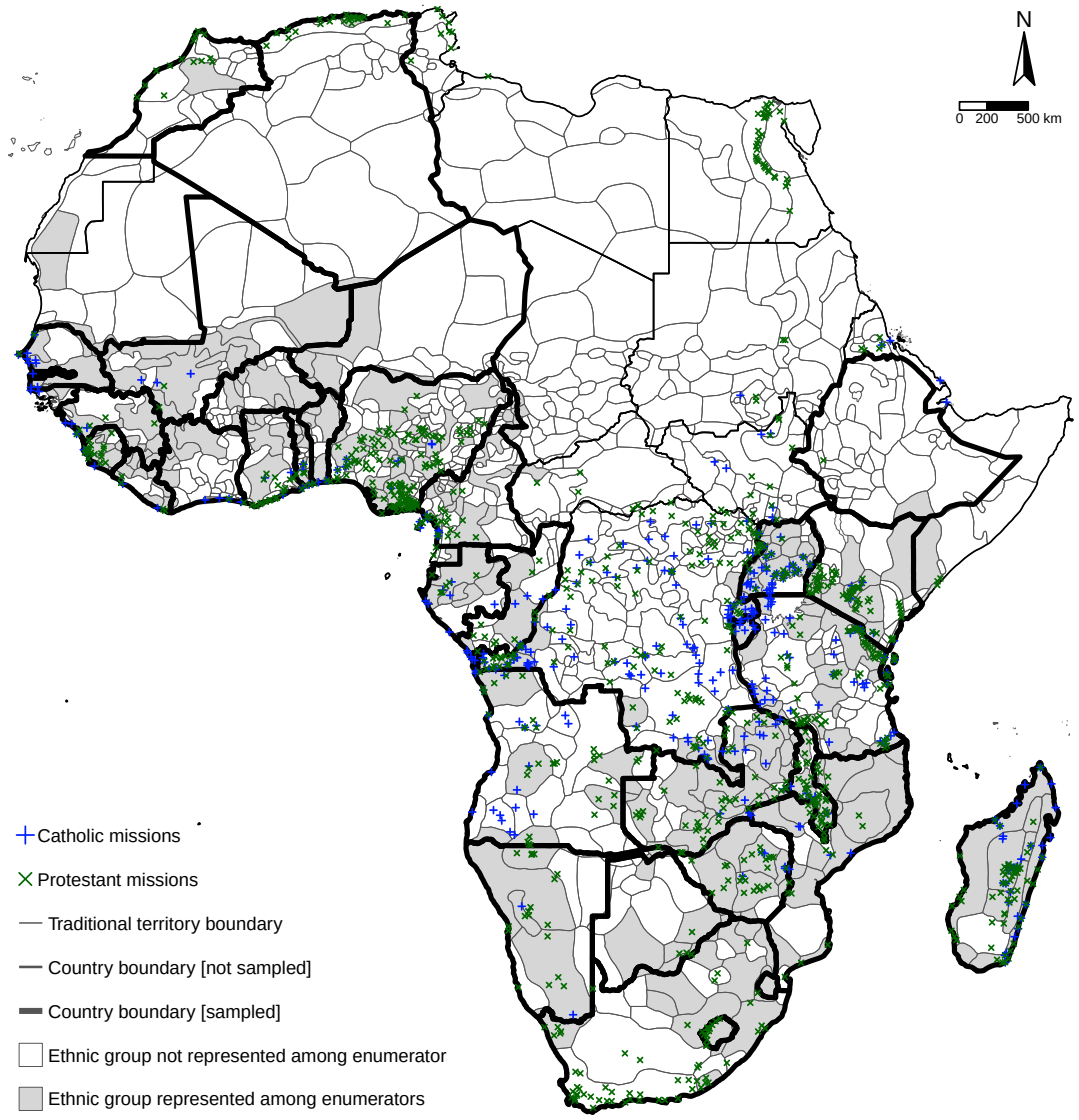
> Thron ; Animist ; Traditional ; Ancestor ; Adoration ; Cranes ; Fetish ; Orisha ; Sangoma ; Zangbeto ; Juju ; Tradition ; Il danse masque ; Divine Healers ; Divine Healer ; La sorcelleria ; Ankassa (African Faith) ; Animisme ; Animiste ; Ancestors and God ; African Faith ; African Faith (Odefuor Nkansah) ; Rreligion Coutumiere ; Religao Africana ; Pagan ; Fombandrazana ; Fomban-Drazana ; Arampilazantsara ; Fomban -Draana ; Rreligion Naturelle ; Razana ; Sankofa ; Bwitti ; Bwiti ; Bouity ; Bwitiste ; Waqeffataa ; Manyoloi/Spirits ; Zanahary ; Worship Idol ; Paenne ; Vodun ; Vodou ; Voodoo ; Vooduism; Tron Kpeto Deka ; Trone Kpeto Deka ; Tron ; Idol Worshipper ; Inkolo Kantu ; Charlatan

Matching the Self-Reported Ethnic Groups in Afrobarometer with Murdock: We link the Afrobarometer survey data to the Murdock Ethnographic Map of Africa (Murdock, 1959). We begin by consolidating all available waves of Afrobarometer data that include information on enumerators' self-reported ethnic group and enumerator-reported exit questions, specifically waves 6 through 9. The data are then collapsed at the level of ethnic group, country, and wave to generate a harmonized dataset of ethnic identifiers.

To merge these ethnic identities with Murdock's classification, we merge the resulting dataset with matching concordances drawn from several previous studies that performed similar mappings between the Afrobarometer ethnic groups and Murdock ethnic groups: Nunn and Wantchekon (2011), Moscona, Nunn and Robinson (2017), Michalopoulos, Putterman and Weil (2019), Teso (2019), Le Rossignol and Lowes (2022), and Berman, Couttenier and Girard (2023).

The merge is performed on the basis of ethnic group, country, and wave. When sources are unanimous on a match, we consider the consensus as a valid mapping and adopt the corresponding Murdock classification, prioritizing sources in the order listed above. In cases of disagreement between sources, for example, the Mongwaketse from Botswana is matched to Ngwaketse by Nunn and Wantchekon (2011), Moscona et al. (2017), and Berman et al. (2023), but to Tswana by Michalopoulos et al. (2019), we employ a manual resolution process. Two research assistants were recruited to review all such discrepancies using historical, linguistic, and ethnographic references. In the case of the Mongwaketse, for instance, the assistants concluded that Ngwaketse is the more accurate match. For those matches for which we could not decide we took the mode across all available sources.

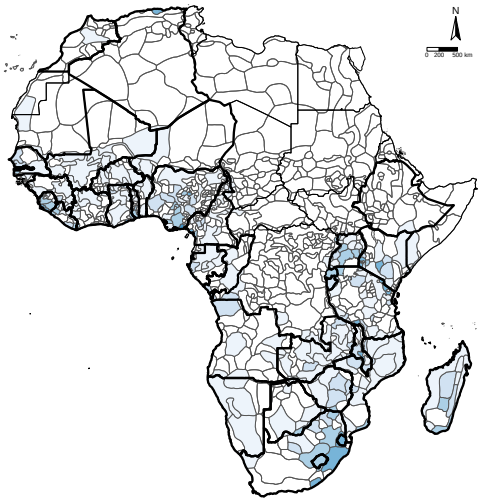
Figure A35: Regions Surveyed in Afrobarometer, Enumerators' Traditional Territories, & Catholic and Protestant Missions



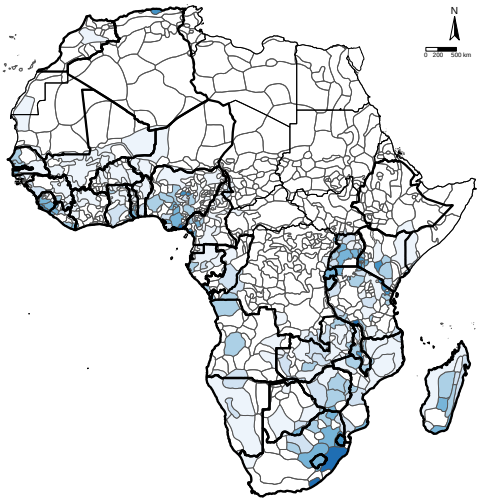
Notes: This figure displays the Afrobarometer cluster locations alongside the locations of Catholic and Protestant missions from (Roome, 1924) The map also includes modern country boundaries and Murdock's traditional territories (Murdock, 1959). Darker shades indicate traditional territories linked to at least one enumerator, as determined by the enumerator's self-reported ethnicity. Catholic missions are marked by blue crosses and Protestant missions by green x's.

Figure A36: Afrobarometer Enumerators' Share of Traditional Territory Close to a Mission

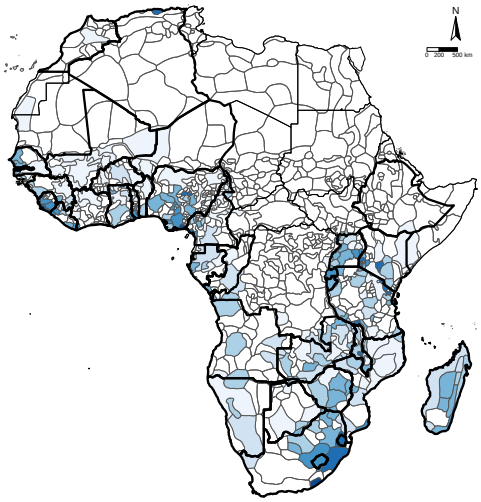
(a) Area within 10 km of a Mission



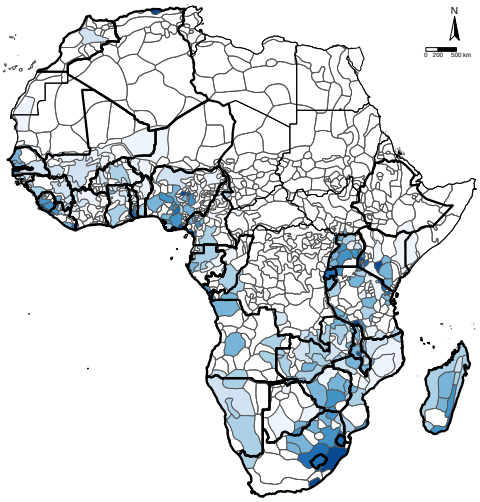
(b) Area within 15 km of a Mission



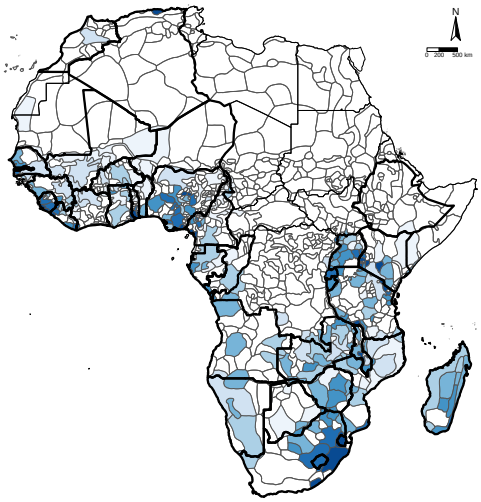
(c) Area within 20 km of a Mission



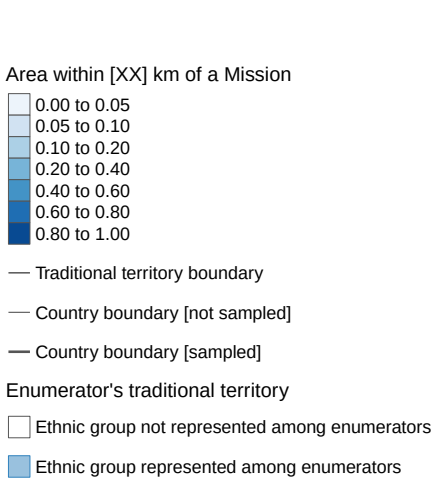
(d) Area within 25 km of a Mission



(e) Area within 30 km of a Mission



(f) Area within 30 km of a Mission



Appendix References

Berman, Nicolas, Mathieu Couttenier, and Victoire Girard, "Mineral resources and the salience of ethnic identities," *The Economic Journal*, 2023, *133* (653), 1705–1737.

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Supplemental Material for

Culture at a Crossroads: Traditional Beliefs in Contemporary Africa

(Not for Online Publication)

10 December 2025

Etienne Le Rossignol
Université de Namur

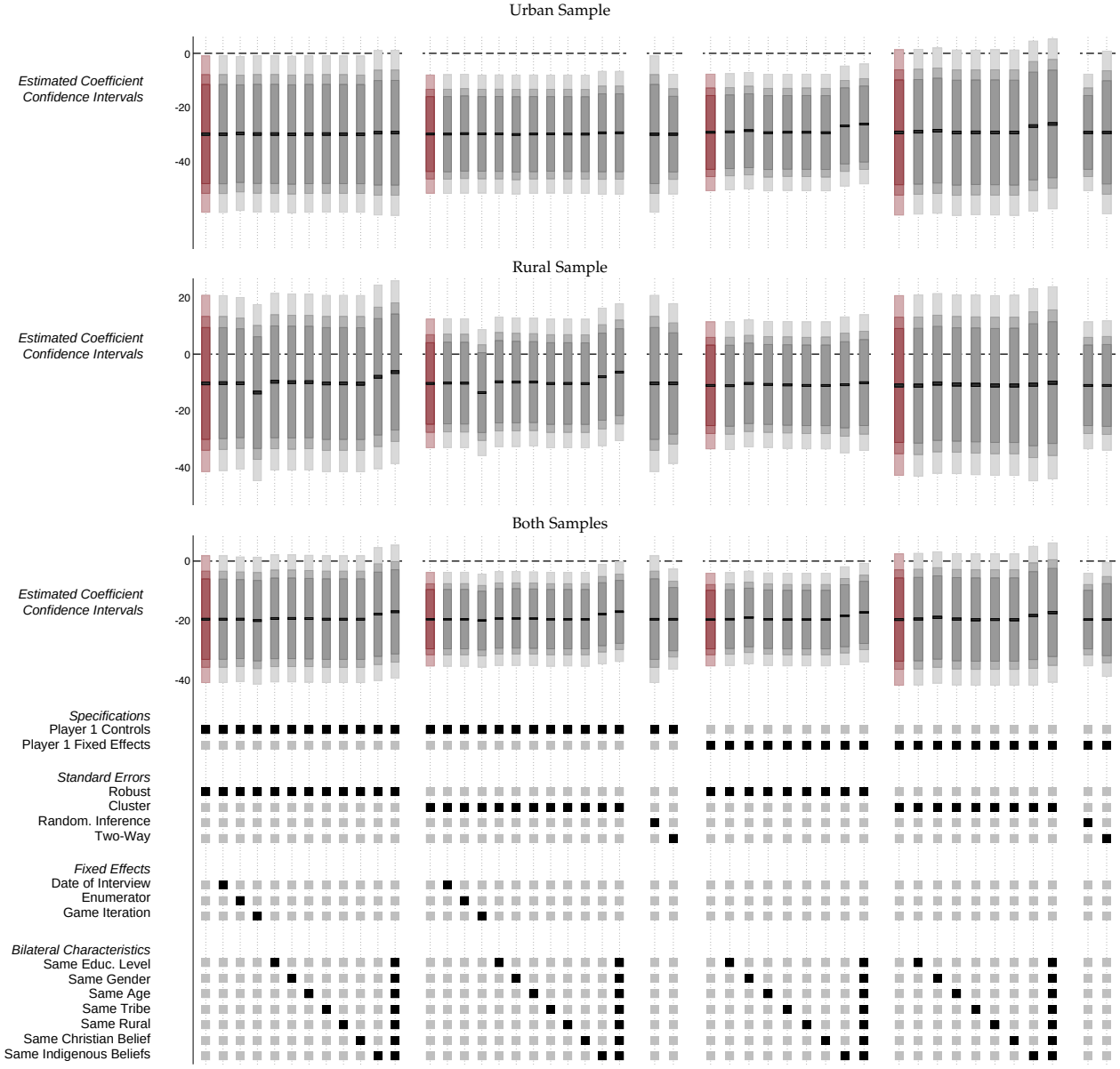
Sara Lowes
UC San Diego

Nathan Nunn
University of British Columbia

Appendix S. Supplementary Tables and Figures (Not for publication)

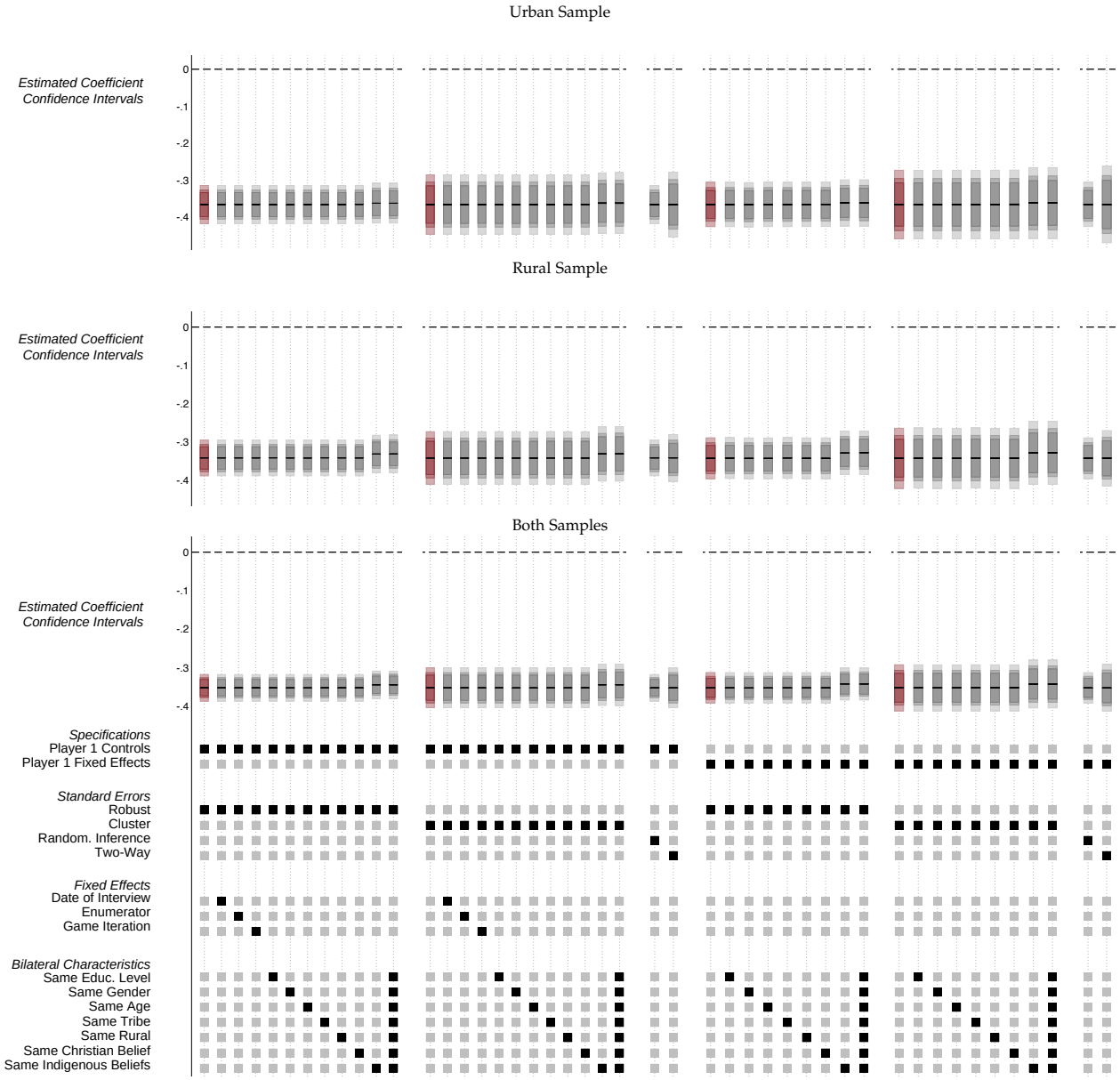
S.1. Robustness for Behavioral Games Estimates

Figure S1: Robustness: Dictator Game



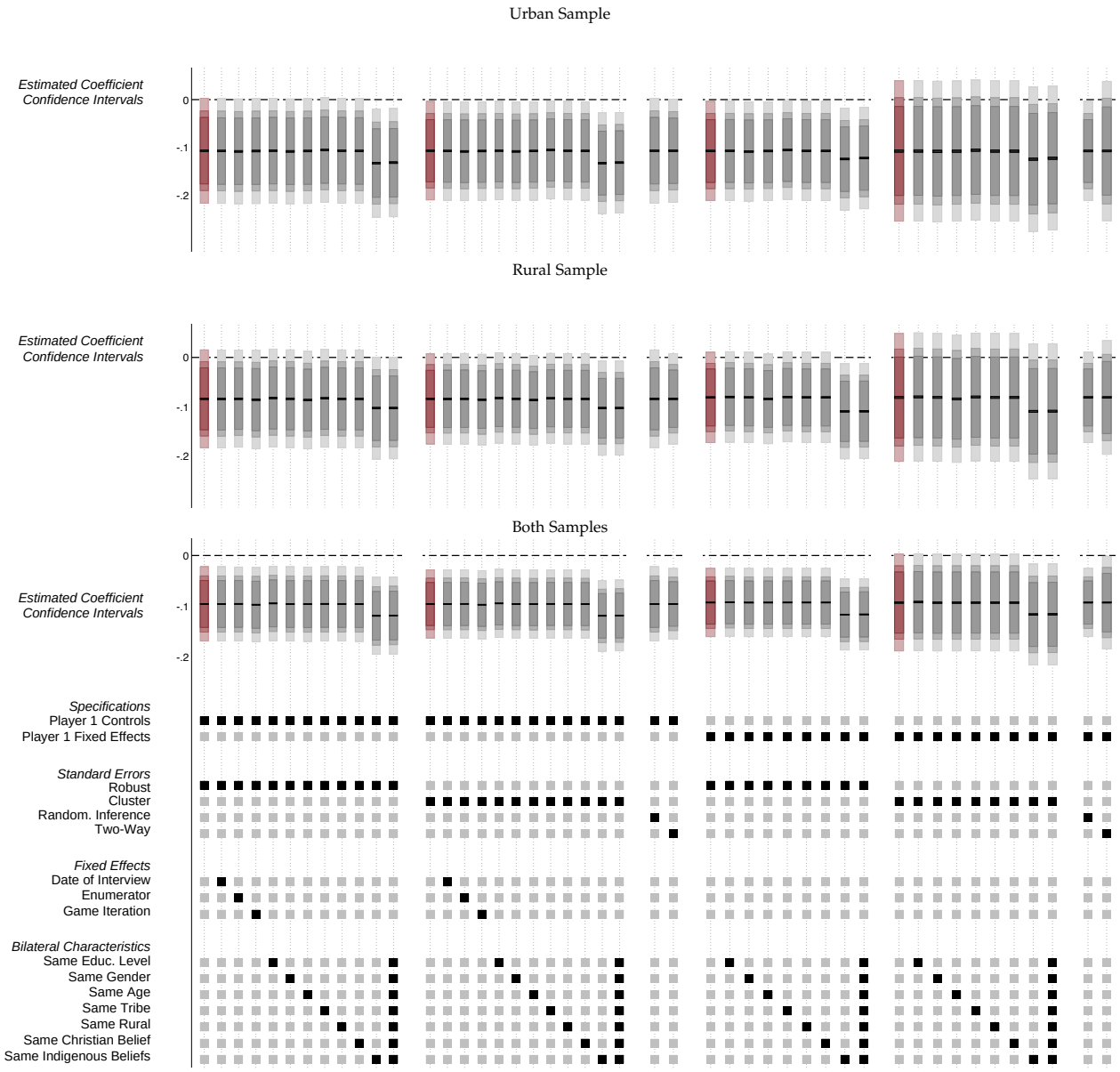
Notes: The figure shows the coefficients and standard errors for the effect of player 2's Traditional Beliefs on the amount sent by player 1 to player 2 (in CF) in the dictator game. Traditional beliefs are measured with an indicator variable that equals 1 if an individual has strong or very strong traditional beliefs, where the omitted category is weak traditional beliefs or neither weak nor strong traditional beliefs. The top panel is the urban sample, the middle panel is the rural sample, and the third panel is the pooled sample. The specifications in the third panel include a sample fixed effect. Coefficients are depicted by black horizontal lines. The vertical bars, from darkest to lightest, denote the 90, 95, and 99% confidence intervals, respectively. The red bars indicate our main specifications. The bottom panel indicates the combination of robustness checks associated with each specification.

Figure S2: Robustness: Chose Your Dictator Game



Notes: The figure shows the coefficients and standard errors for the effect of player 2's Traditional Beliefs on the decision of player 1 to choose player 2 as dictator in the choose your dictator game. Traditional beliefs are measured with an indicator variable that equals 1 if an individual has strong or very strong traditional beliefs, where the omitted category is weak traditional beliefs or neither weak nor strong traditional beliefs The top panel is the urban sample, the middle panel is the rural sample, and the third panel is the pooled sample. The specifications in the third panel include a sample fixed effect. Coefficients are depicted by black horizontal lines. The vertical bars, from darkest to lightest, denote the 90, 95, and 99% confidence intervals, respectively. The red bars indicate our main specifications. The bottom panel indicates the combination of robustness checks associated with each specification.

Figure S3: Robustness: Joy of Destruction Game



Notes: The figure shows the coefficients and standard errors for the effect of player 2's Traditional Beliefs on the decision made by player 1 to player 2 in an anonymous joy of destruction game. Traditional Beliefs are measured with an indicator variable that equals 1 if an individual has strong or very strong traditional beliefs, where the omitted category is weak traditional beliefs or neither weak nor strong traditional beliefs. The top panel is the urban sample, the middle panel is the rural sample, and the third panel is the pooled sample. The specifications in the third panel include a sample fixed effect. Coefficients are depicted by black horizontal lines. The vertical bars, from darkest to lightest, denote the 90, 95, and 99% confidence intervals, respectively. The red bars indicate our main specifications. The bottom panel indicates the combination of robustness checks associated with each specification.

Table S1: DG Estimates: Measuring Traditional Beliefs Using Indicator Variables for Each Category

	OLS, Dep. Var.: Amount Sent to Other Player (in CF)					
	Urban Sample		*Rural Sample*		*Both Samples*	
	(1)	(2)	(3)	(4)	(5)	(6)
Player 2's Traditional Beliefs:						
Neither Weak nor Strong	6.228	8.523	19.544	-11.363	12.145	-2.806
	[15.666]	[16.827]	[16.991]	[17.149]	[11.638]	[12.173]
	(15.562)	(23.808)	(16.877)	(24.263)	(11.630)	(17.219)
Strong	-27.452	-27.828	-0.331	-23.653	-13.685	-25.639
	[16.027]*	[15.722]*	[17.162]	[14.171]*	[11.803]	[10.614]**
	(14.398)*	(22.244)*	(14.875)	(20.049)*	(10.432)	(15.013)**
Very Strong	-26.373	-22.339	-0.112	-9.517	-13.451	-16.149
	[15.570]*	[13.582]	[17.966]	[14.497]	[11.880]	[9.960]
	(13.558)*	(19.216)	(14.685)	(20.511)	(9.971)	(14.088)
Player 1's Traditional Beliefs:						
Neither Weak nor Strong	-23.028		-44.932		-34.317	
	[21.984]		[28.368]		[17.325]**	
	(27.598)		(34.662)		(21.447)**	
Strong	-16.788		-47.049		-33.382	
	[18.245]		[18.430]**		[13.051]**	
	(22.454)		(22.245)**		(15.876)**	
Very Strong	-28.714		-36.632		-33.896	
	[16.577]*		[16.342]**		[11.549]***	
	(20.458)*		(19.633)**		(14.029)***	
Player 1 FE	N	Y	N	Y	N	Y
Sample FE	N	N	N	N	N	N
Observations	1,040	1,040	1,200	1,200	2,240	2,240
Respondents	520	520	600	600	1,120	1,120
Mean Dep. Var.	468.9	468.9	437.7	437.7	452.2	452.2
SD Dep. Var.	181.6	181.6	213.6	213.6	199.9	199.9

Notes: All columns include fixed effects for player 2 characteristics: gender, educational attainment, grew up in a rural area, strength of belief in Christian God, and same tribe as player 1. Odd-numbered columns include fixed effects for the equivalent player 1 characteristics. Even-numbered columns include player 1 fixed effects. *Amount Sent to Other Player* is the amount player 1 sends to player 2 in an anonymous dictator game (in CF). *Traditional Beliefs* is a variable from 1 to 4, where (1) is weak traditional beliefs, (2) neither weak nor strong traditional beliefs, (3) strong traditional beliefs, and (4) very strong traditional beliefs. All columns include indicators for each category of strength of belief, where the omitted category is weak traditional beliefs. Robust standard errors are reported in []. Standard errors clustered at the individual level in (). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table S2: CYD Estimates: Measuring Traditional Beliefs Using Indicator Variables for Each Category

	OLS, Dep. Var.: Chose Player as Dictator					
	Urban Sample		*Rural Sample*		*Both Samples*	
	(1)	(2)	(3)	(4)	(5)	(6)
Player 2's Traditional Beliefs:						
Neither Weak nor Strong	-0.013	-0.017	-0.005	-0.017	-0.008	-0.017
	[0.029]	[0.038]	[0.026]	[0.035]	[0.019]	[0.026]
	(0.028)	(0.043)	(0.027)	(0.041)	(0.019)	(0.030)
Strong	-0.403	-0.416	-0.338	-0.340	-0.366	-0.373
	[0.029]***	[0.036]***	[0.026]***	[0.032]***	[0.019]***	[0.024]***
	(0.037)***	(0.048)***	(0.033)***	(0.042)***	(0.025)***	(0.032)***
Very Strong	-0.345	-0.338	-0.354	-0.364	-0.350	-0.351
	[0.029]***	[0.036]***	[0.026]***	[0.032]***	[0.019]***	[0.024]***
	(0.037)***	(0.048)***	(0.032)***	(0.041)***	(0.025)***	(0.031)***
Player 1's Traditional Beliefs:						
Neither Weak nor Strong	0.004		-0.004		0.000	
	[0.041]		[0.040]		[0.029]	
	(0.005)		(0.011)		(0.006)	
Strong	-0.002		-0.009		-0.005	
	[0.032]		[0.029]		[0.022]	
	(0.004)		(0.009)		(0.005)	
Very Strong	0.001		-0.003		-0.001	
	[0.028]		[0.027]		[0.019]	
	(0.004)		(0.008)		(0.004)	
Player 1 FE	N	Y	N	Y	N	Y
Sample FE	N	N	N	N	N	N
Observations	2,080	2,080	2,400	2,400	4,480	4,480
Respondents	520	520	600	600	1,120	1,120
Mean Dep. Var.	0.5	0.5	0.5	0.5	0.5	0.5
SD Dep. Var.	0.5	0.5	0.5	0.5	0.5	0.5

Notes: The data are stacked so that there are four observations per respondent, one corresponding to each person that they could choose between for the two rounds of the CYD. All columns include fixed effects for player 2 characteristics: gender, educational attainment, grew up in a rural area, strength of belief in Christian God, and same tribe as player 1. Odd-numbered columns include fixed effects for the equivalent player 1 characteristics. Even-numbered columns include player 1 fixed effects. *Chose Player as Dictator* is an indicator variable equal to 1 if this player was selected. *Traditional Beliefs* is a variable from 1 to 4, where (1) is weak traditional beliefs, (2) neither weak nor strong traditional beliefs, (3) strong traditional beliefs, and (4) very strong traditional beliefs. All columns include indicators for each category of strength of belief, where the omitted category is weak traditional beliefs. Robust standard errors are reported in []. Standard errors clustered at the individual level in (). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table S3: JOD Estimates: Measuring Traditional Beliefs Using Indicator Variables for Each Category

	OLS, Dep. Var.: Choice in JOD					
	Urban Sample		*Rural Sample*		*Both Samples*	
	(1)	(2)	(3)	(4)	(5)	(6)
Player 2's Traditional Beliefs:						
Neither Weak nor Strong	-0.026	0.051	-0.041	-0.138	-0.034	-0.051
	[0.060]	[0.079]	[0.055]	[0.073]*	[0.040]	[0.053]
	(0.060)	(0.111)	(0.055)	(0.103)*	(0.040)	(0.075)
Strong	-0.148	-0.131	-0.079	-0.128	-0.110	-0.132
	[0.059]**	[0.069]*	[0.056]	[0.063]**	[0.041]***	[0.046]***
	(0.057)**	(0.097)*	(0.054)	(0.089)**	(0.039)***	(0.065)***
Very Strong	-0.088	-0.024	-0.130	-0.173	-0.116	-0.105
	[0.063]	[0.069]	[0.055]**	[0.062]***	[0.041]***	[0.046]**
	(0.060)	(0.098)	(0.054)**	(0.088)***	(0.040)***	(0.065)**
Player 1's Traditional Beliefs:						
Neither Weak nor Strong	-0.017		0.006		-0.025	
	[0.080]		[0.088]		[0.059]	
	(0.085)		(0.093)		(0.063)	
Strong	0.021		-0.057		-0.019	
	[0.071]		[0.060]		[0.046]	
	(0.076)		(0.064)		(0.049)	
Very Strong	0.045		-0.177		-0.080	
	[0.063]		[0.053]***		[0.041]**	
	(0.066)		(0.057)***		(0.044)**	
Player 1 FE	N	Y	N	Y	N	Y
Sample FE	N	N	N	N	N	N
Observations	1,022	1,022	1,190	1,190	2,212	2,212
Respondents	513	513	598	598	1,111	1,111
Mean Dep. Var.	0.164	0.164	0.081	0.081	0.119	0.119
SD Dep. Var.	0.674	0.674	0.685	0.685	0.681	0.681

Notes: All columns include fixed effects for player 2 characteristics: gender, educational attainment, grew up in a rural area, strength of belief in Christian God, and same tribe as player 1. Odd-numbered columns include fixed effects for the equivalent player 1 characteristics. Even-numbered columns include player 1 fixed effects. *Choice in JOD* takes the value of -1 if player 1 chooses to decrease the endowment of player 2, 0 if player 1 chooses to do nothing, and 1 if player 1 chooses to increase the endowment of player 2. *Traditional Beliefs* is a variable from 1 to 4, where (1) is weak traditional beliefs, (2) neither weak nor strong traditional beliefs, (3) strong traditional beliefs, and (4) very strong traditional beliefs. All columns include indicators for each category of strength of belief, where the omitted category is weak traditional beliefs. Robust standard errors are reported in []. Standard errors clustered at the individual level in (). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

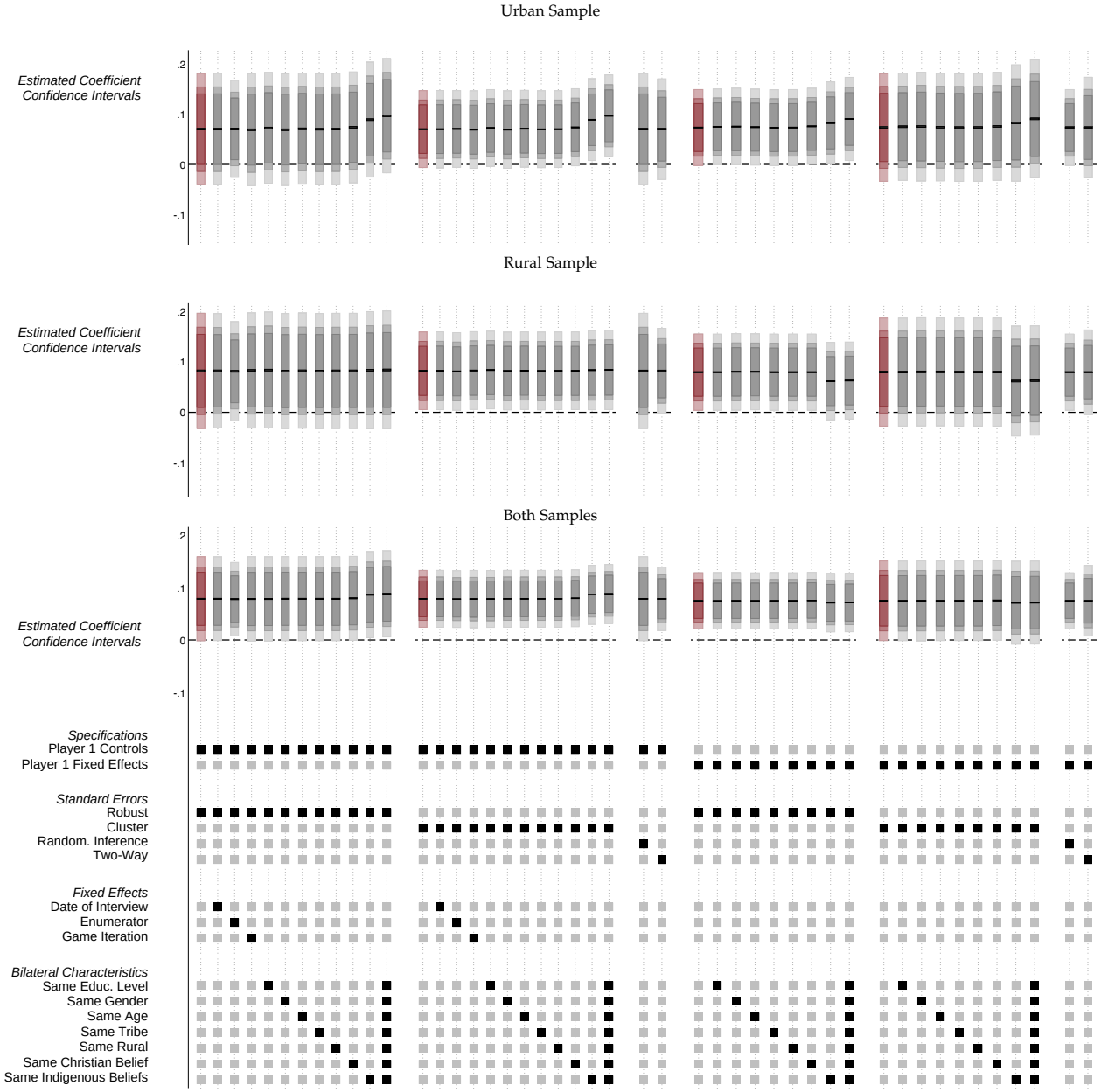
Table S4: Choose Your Dictator Game: Logit Estimates

	Logit - Marginal Effects at Means: OLS, Dep. Var.: Chose Player as Dictator											
	Urban Sample				*Rural Sample*				*Both Samples*			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Player 2's Traditional Beliefs:												
Integer Measure, 1-4	-0.151	-0.159			-0.161	-0.177			-0.156	-0.168		
	[0.011]***	[0.011]***			[0.011]***	[0.011]***			[0.008]***	[0.008]***		
	(0.016)***	(0.017)***			(0.014)***	(0.016)***			(0.011)***	(0.012)***		
Strong or Very Strong			-0.387	-0.388			-0.392	-0.408			-0.389	-0.396
			[0.024]***	[0.024]***			[0.023]***	[0.024]***			[0.017]***	[0.017]***
			(0.037)***	(0.037)***			(0.034)***	(0.035)***			(0.025)***	(0.025)***
Player 1's Traditional Beliefs:												
Integer Measure, 1-4	-0.001				-0.002				-0.002			
	[0.010]				[0.010]				[0.007]			
	(0.002)				(0.004)				(0.002)			
Strong or Very Strong			-0.000				-0.005				-0.003	
			[0.027]				[0.027]				[0.019]	
			(0.003)				(0.008)				(0.004)	
Player 1 FE	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y
Sample FE	N	N	N	N	N	N	N	N	Y	Y	Y	Y
Observations	2,080	2,080	2,080	2,080	2,400	2,400	2,400	2,400	4,480	4,480	4,480	4,480
Respondents	520	520	520	520	600	600	600	600	1,120	1,120	1,120	1,120
Mean Dep. Var.	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500
SD Dep. Var.	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500	0.500

Notes: The data are stacked so that there are four observations per respondent, one corresponding to each person that they could choose between for the two rounds of the CYD. All columns include fixed effects for player 2 characteristics: gender, educational attainment, grew up in a rural area, strength of belief in Christian God, and same tribe as player 1. Odd-numbered columns include fixed effects for the equivalent player 1 characteristics. Even-numbered columns include player 1 fixed effects. *Chose Player as Dictator* is an indicator variable equal to 1 if this player was selected. *Traditional Beliefs* is a variable from 1 to 4, where (1) is weak traditional beliefs, (2) neither weak nor strong traditional beliefs, (3) strong traditional beliefs, and (4) very strong traditional beliefs. Columns 1, 2, 5, 6, 9, and 10 present the results with traditional beliefs as a 1 to 4 variable. Columns 3, 4, 7, 8, 11, and 12 present the results with an indicator variable that equals 1 if an individual has strong or very strong traditional beliefs, where the omitted category is weak traditional beliefs or neither weak nor strong traditional beliefs. Robust standard errors are reported in []. Standard errors clustered at the individual level in (). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

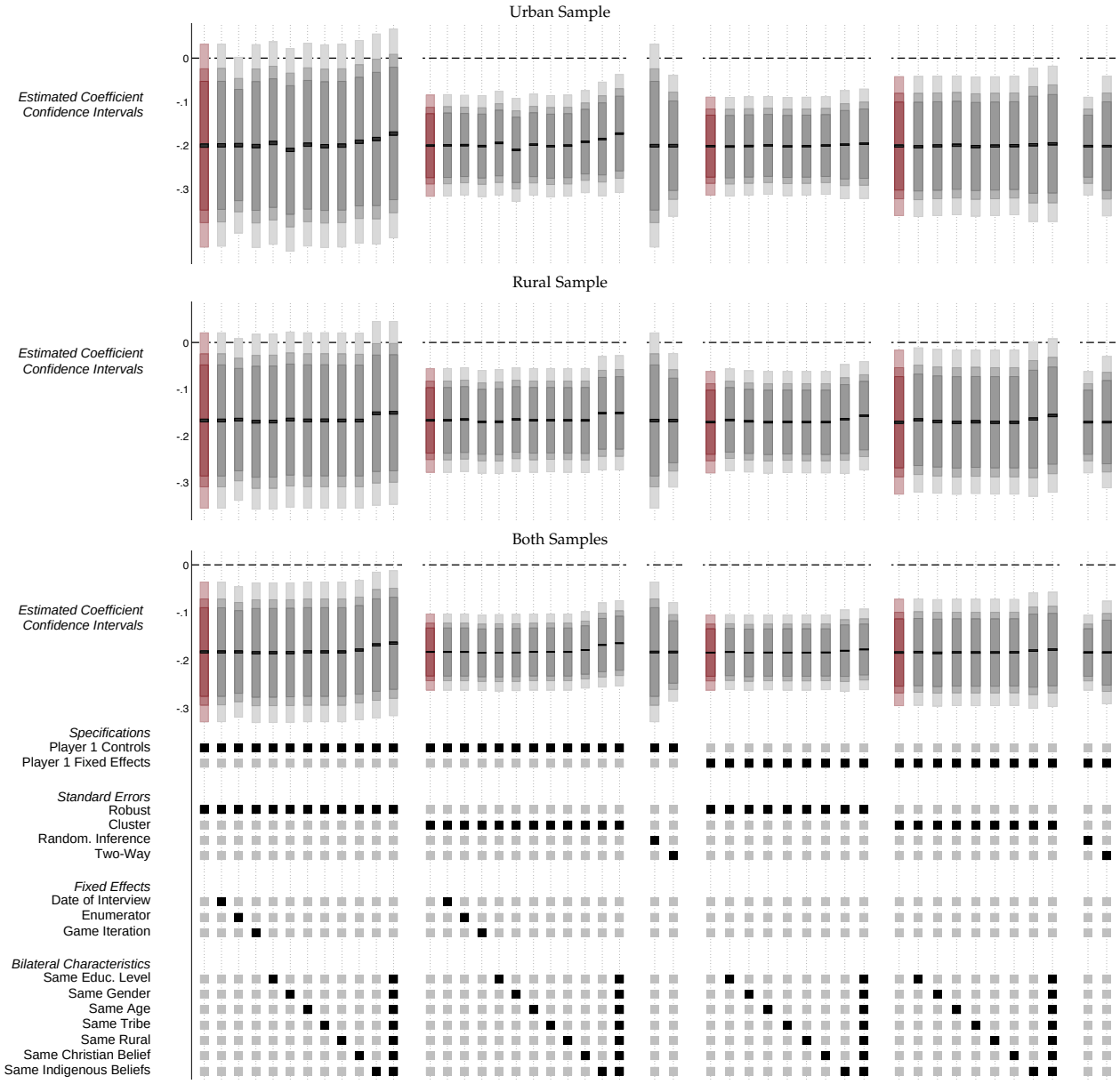
S.2. Robustness for Social Norms Estimates

Figure S4: Robustness: DG Appropriate to Send CF 100 to Player 2



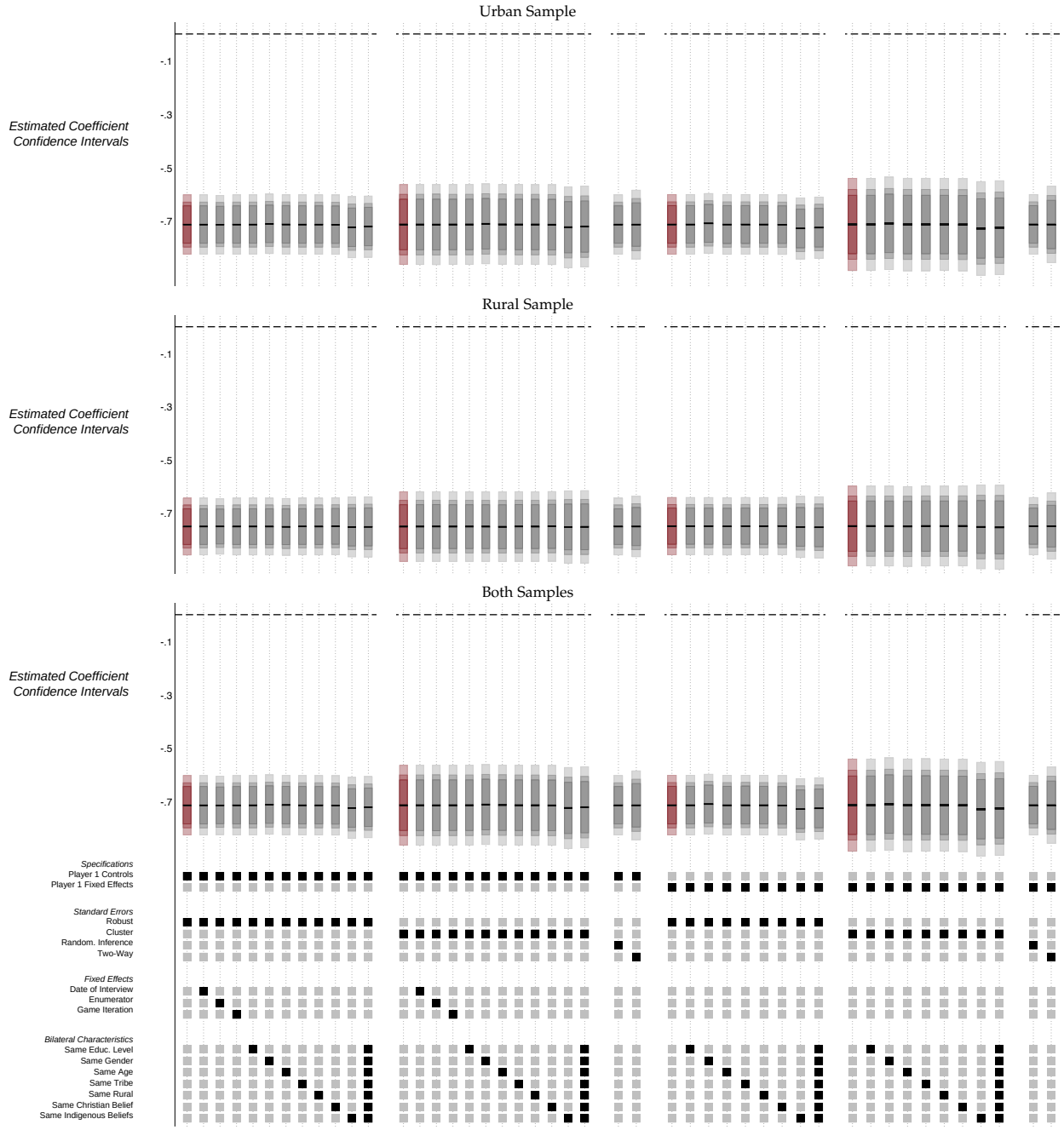
Notes: The figure shows the coefficients and standard errors for the effect of player 2's Traditional Beliefs on the appropriateness of sending CF100 to a player 2 with strong traditional beliefs. Traditional Beliefs are measured with an indicator variable that equals 1 if an individual has strong or very strong traditional beliefs, where the omitted category is weak traditional beliefs or neither weak nor strong traditional beliefs. The top panel is the urban sample, the middle panel is the rural sample, and the third panel is the pooled sample. The specifications in the third panel include a sample fixed effect. Coefficients are depicted by black horizontal lines. The vertical bars, from darkest to lightest, denote the 90, 95, and 99% confidence intervals, respectively. The red bars indicate our main specifications. The bottom panel indicates the combination of robustness checks associated with each specification.

Figure S5: Robustness: DG Appropriate to Send CF 1,000 to Player 2



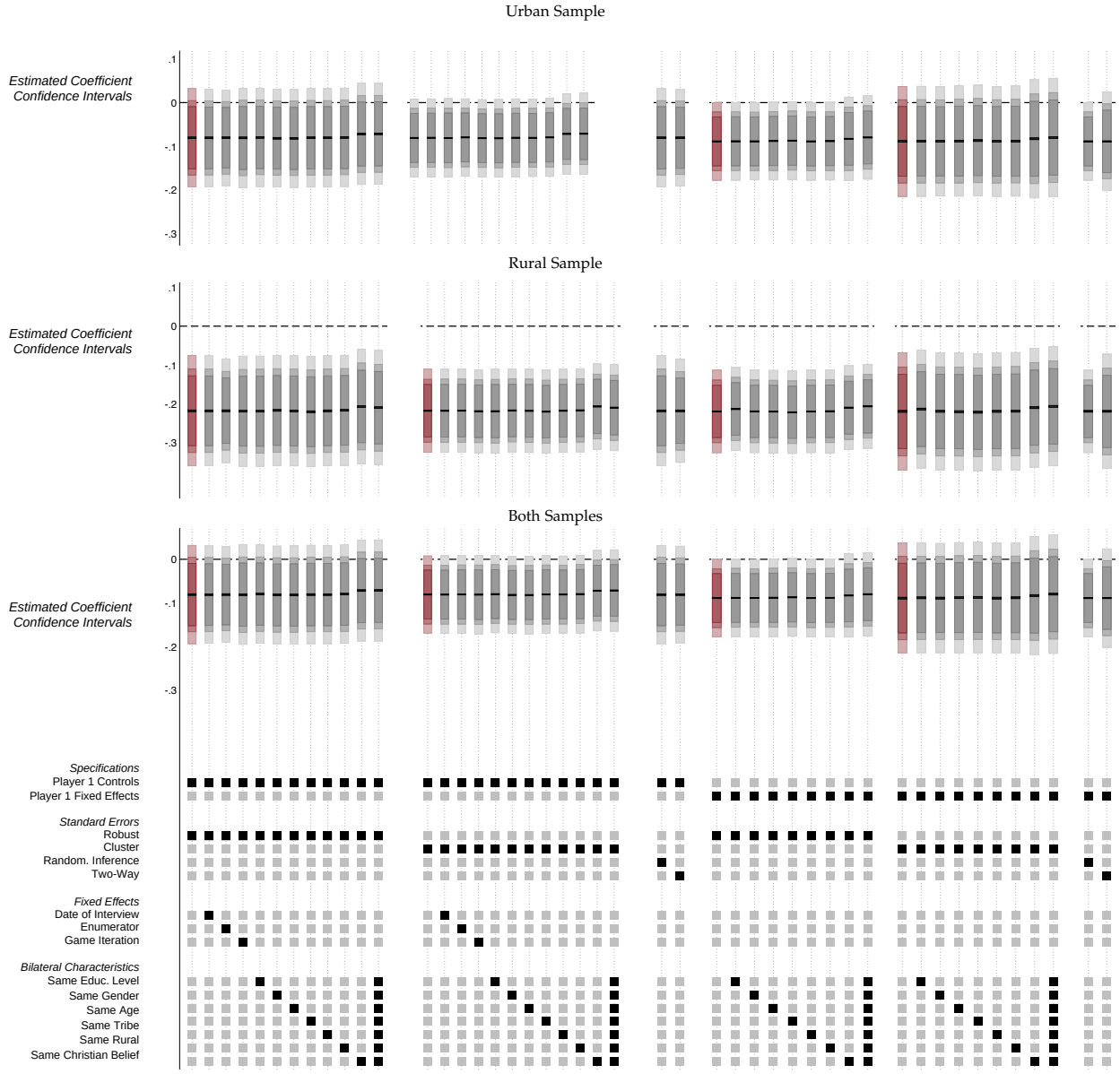
Notes: The figure shows the coefficients and standard errors for the effect of player 2's Traditional Beliefs on the appropriateness of sending CF 1,000 to a player 2 with strong traditional beliefs. Traditional Beliefs are measured with an indicator variable that equals 1 if an individual has strong or very strong traditional beliefs, where the omitted category is weak traditional beliefs or neither weak nor strong traditional beliefs. The top panel is the urban sample, the middle panel is the rural sample, and the third panel is the pooled sample. The specifications in the third panel include a sample fixed effect. Coefficients are depicted by black horizontal lines. The vertical bars, from darkest to lightest, denote the 90, 95, and 99% confidence intervals, respectively. The red bars indicate our main specifications. The bottom panel indicates the combination of robustness checks associated with each specification.

Figure S6: Robustness: CYD Appropriate to Choose Player



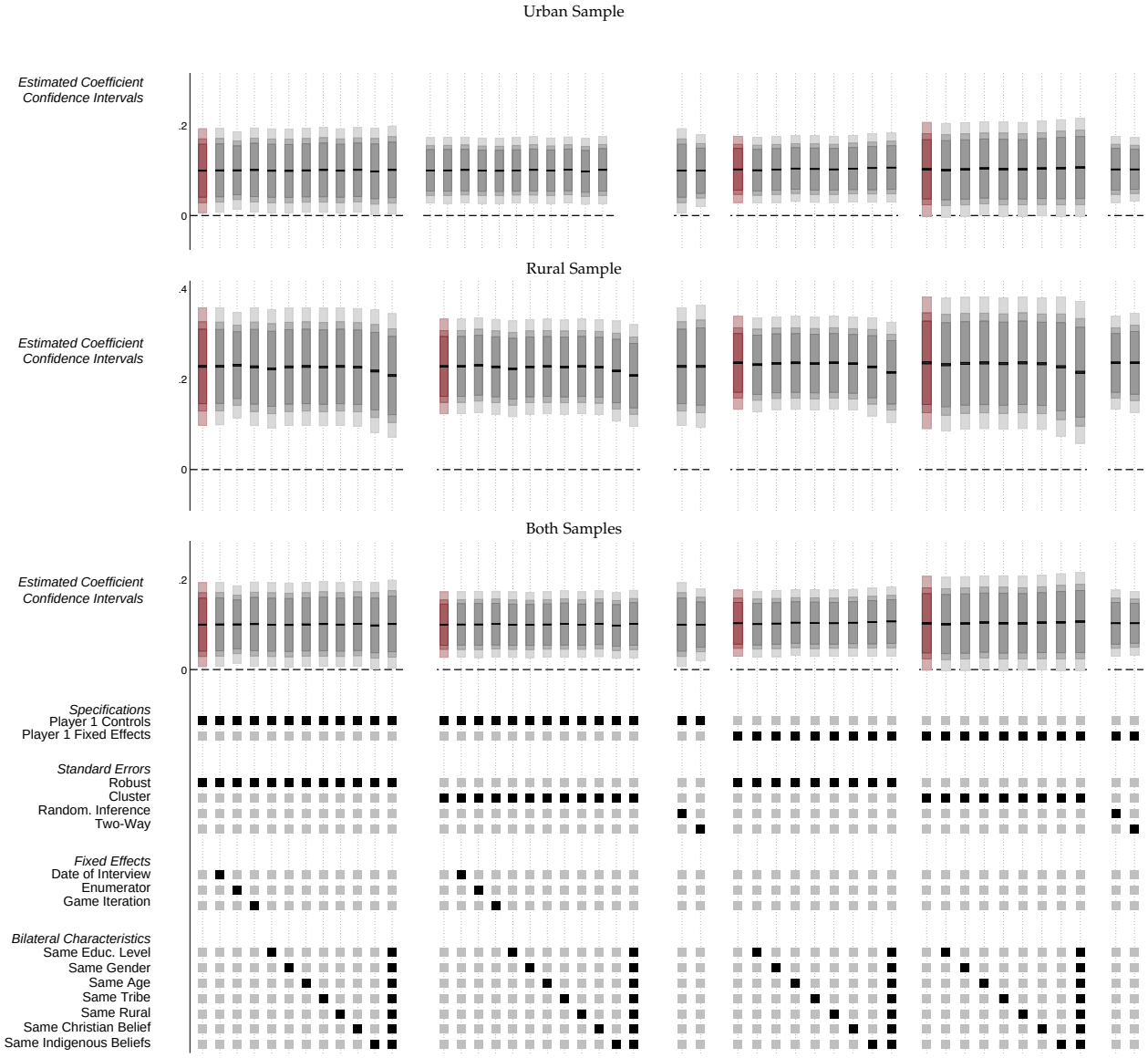
Notes: The figure shows the coefficients and standard errors for the effect of player 2's Traditional Beliefs on the appropriateness of choosing a player 2 with strong traditional beliefs in an anonymous chose your dictator game. Traditional Beliefs are measured with an indicator variable that equals 1 if an individual has strong or very strong traditional beliefs, where the omitted category is weak traditional beliefs or neither weak nor strong traditional beliefs. The top panel is the urban sample, the middle panel is the rural sample, and the third panel is the pooled sample. The specifications in the third panel include a sample fixed effect. Coefficients are depicted by black horizontal lines. The vertical bars, from darkest to lightest, denote 90, 95, and 99% confidence intervals, respectively. The red bars indicate our main specifications. The bottom panel indicates the combination of robustness checks associated with each specification.

Figure S7: Robustness: JOD Appropriate to Increase



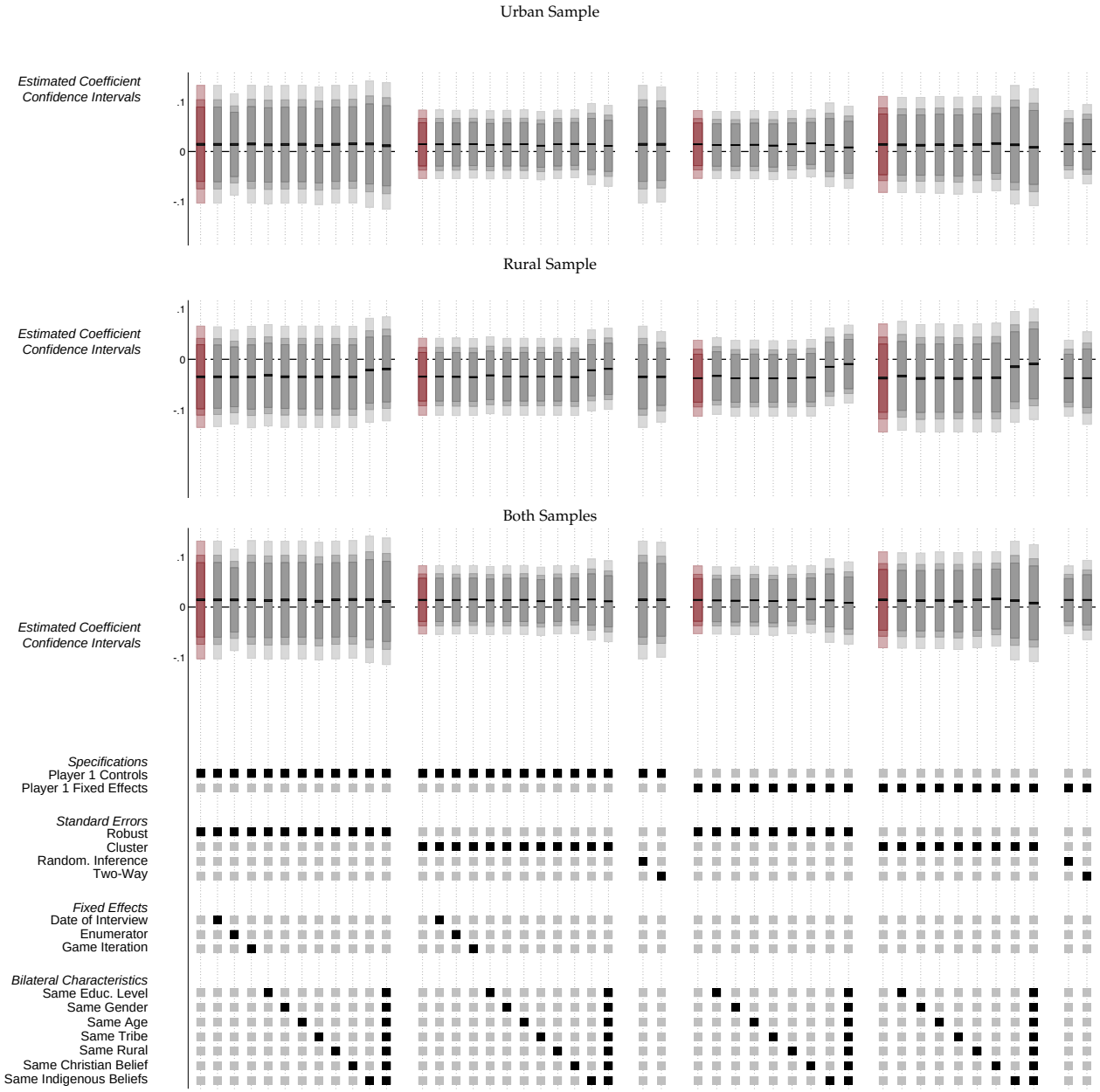
Notes: The figure shows the coefficients and standard errors for the effect of player 2's Traditional Beliefs on the appropriateness to increase the endowment of player 2 in an anonymous joy of destruction game. Traditional Beliefs are measured with an indicator variable that equals 1 if an individual has strong or very strong traditional beliefs, where the omitted category is weak traditional beliefs or neither weak nor strong traditional beliefs. The top panel is the urban sample, the middle panel is the rural sample, and the third panel is the pooled sample. The specifications in the third panel include a sample fixed effect. Coefficients are depicted by black horizontal lines. The vertical bars, from darkest to lightest, denote 90, 95, and 99% confidence intervals, respectively. The red bars indicate our main specifications. The bottom panel indicates the combination of robustness checks associated with each specification.

Figure S8: Robustness: JOD Appropriate to Decrease



Notes: The figure shows the coefficients and standard errors for the effect of player 2's Traditional Beliefs on the appropriateness to decrease the endowment of player 2 in an anonymous joy of destruction game. Traditional Beliefs are measured with an indicator variable that equals 1 if an individual has strong or very strong traditional beliefs, where the omitted category is weak traditional beliefs or neither weak nor strong traditional beliefs. The top panel is the urban sample, the middle panel is the rural sample, and the third panel is the pooled sample. The specifications in the third panel include a sample fixed effect. Coefficients are depicted by black horizontal lines. The vertical bars, from darkest to lightest, denote 90, 95, and 99% confidence intervals, respectively. The red bars indicate our main specifications. The bottom panel indicates the combination of robustness checks associated with each specification.

Figure S9: Robustness: JOD Appropriate to do Nothing



Notes: The figure shows the coefficients and standard errors for the effect of player 2's Traditional Beliefs on the appropriateness to neither increase nor decrease the endowment of player 2 in an anonymous joy of destruction game. Traditional Beliefs are measured with an indicator variable that equals 1 if an individual has strong or very strong traditional beliefs, where the omitted category is weak traditional beliefs or neither weak nor strong traditional beliefs. The top panel is the urban sample, the middle panel is the rural sample, and the third panel is the pooled sample. The specifications in the third panel include a sample fixed effect. Coefficients are depicted by black horizontal lines. The vertical bars, from darkest to lightest, denote 90, 95, and 99% confidence intervals, respectively. The red bars indicate our main specifications. The bottom panel indicates the combination of robustness checks associated with each specification.

Table S5: DG Appropriate to Send [...] CF: Measuring Traditional Beliefs Using Indicator Variables for Each Category: Urban Sample

	OLS, Dep. Var.: Appropriate to Send [...] CF to the Other Player, 1-4																					
	0 CF		*100 CF*		*200 CF*		*300 CF*		*400 CF*		*500 CF*		*600 CF*		*700 CF*		*800 CF*		*900 CF*		*1000 CF*	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
Player 2's Traditional Beliefs:																						
Neither Weak nor Strong	0.007	0.005	0.054	0.166	-0.087	0.062	-0.093	0.049	0.005	0.092	-0.006	-0.010	-0.164	-0.073	-0.235	-0.187	-0.178	-0.017	-0.179	-0.122	-0.171	-0.171
	[0.025]	[0.030]	[0.059]	[0.061]***	[0.067]	[0.068]	[0.073]	[0.059]	[0.066]	[0.055]*	[0.044]	[0.051]	[0.064]**	[0.069]	[0.083]***	[0.072]***	[0.107]*	[0.076]	[0.122]	[0.080]	[0.133]	[0.089]*
	(0.025)	(0.043)	(0.059)	(0.086)***	(0.068)	(0.096)	(0.073)	(0.083)	(0.066)	(0.077)*	(0.045)	(0.072)	(0.065)**	(0.098)	(0.083)***	(0.102)***	(0.107)*	(0.108)	(0.122)	(0.113)	(0.133)	(0.126)*
Strong	0.001	-0.006	0.108	0.209	0.069	0.147	0.016	0.016	0.030	0.034	-0.062	-0.070	-0.161	-0.095	-0.193	-0.153	-0.201	-0.138	-0.208	-0.198	-0.285	-0.295
	[0.023]	[0.032]	[0.057]*	[0.049]***	[0.067]	[0.053]***	[0.073]	[0.044]	[0.065]	[0.039]	[0.047]	[0.049]	[0.060]***	[0.050]*	[0.079]**	[0.059]**	[0.099]**	[0.067]**	[0.114]*	[0.074]***	[0.125]**	[0.077]***
	(0.023)	(0.045)	(0.048)*	(0.069)***	(0.055)	(0.075)***	(0.058)	(0.063)	(0.051)	(0.056)	(0.043)	(0.069)	(0.051)***	(0.071)*	(0.066)**	(0.084)**	(0.080)**	(0.094)**	(0.091)*	(0.105)***	(0.097)**	(0.108)***
Very Strong	0.010	0.019	0.084	0.097	0.034	0.108	-0.034	0.121	0.022	0.104	-0.088	-0.084	-0.110	-0.081	-0.202	-0.198	-0.199	-0.116	-0.239	-0.192	-0.283	-0.274
	[0.023]	[0.021]	[0.059]	[0.056]*	[0.065]	[0.056]*	[0.069]	[0.052]**	[0.061]	[0.045]**	[0.047]*	[0.049]*	[0.060]*	[0.055]	[0.079]**	[0.059]***	[0.099]**	[0.066]*	[0.113]**	[0.062]***	[0.127]**	[0.077]***
	(0.023)	(0.030)	(0.052)	(0.079)*	(0.056)	(0.080)*	(0.059)	(0.073)**	(0.051)	(0.063)**	(0.046)*	(0.069)*	(0.054)*	(0.078)	(0.065)**	(0.084)***	(0.083)**	(0.094)*	(0.091)**	(0.088)***	(0.105)**	(0.109)***
Player 1's Traditional Beliefs:																						
Neither Weak nor Strong	-0.007		-0.222		-0.285		-0.288		-0.330		-0.075		-0.224		-0.138		-0.224		-0.143		-0.165	
	[0.015]		[0.086]**		[0.104]***		[0.114]**		[0.105]***		[0.065]		[0.096]**		[0.112]		[0.142]		[0.167]		[0.184]	
	(0.015)		(0.102)**		(0.128)***		(0.146)**		(0.137)***		(0.079)		(0.114)**		(0.135)		(0.185)		(0.212)		(0.233)	
Strong	-0.001		-0.246		-0.155		-0.105		-0.040		-0.112		0.003		-0.116		-0.220		-0.358		-0.316	
	[0.013]		[0.075]***		[0.086]*		[0.086]		[0.071]		[0.054]**		[0.067]		[0.093]		[0.116]*		[0.135]***		[0.148]**	
	(0.014)		(0.091)***		(0.107)*		(0.115)		(0.093)		(0.060)**		(0.080)		(0.118)		(0.152)*		(0.176)***		(0.195)**	
Very Strong	0.033		-0.048		-0.029		-0.048		-0.047		-0.026		-0.085		-0.111		-0.084		-0.161		-0.032	
	[0.018]*		[0.072]		[0.080]		[0.078]		[0.067]		[0.050]		[0.065]		[0.086]		[0.109]		[0.124]		[0.136]	
	(0.019)*		(0.088)		(0.098)		(0.102)		(0.087)		(0.056)		(0.078)		(0.111)		(0.143)		(0.163)		(0.178)	
Player 1 FE	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y
Sample FE	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Observations	898	898	898	898	898	898	898	898	898	898	898	898	898	898	898	898	898	898	898	898	898	898
Respondents	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449
Mean Dep. Var.	1.031	1.031	1.402	1.402	1.864	1.864	2.321	2.321	2.784	2.784	3.759	3.759	3.537	3.537	3.218	3.218	2.837	2.837	2.551	2.551	2.354	2.354
SD Dep. Var.	0.229	0.229	0.640	0.640	0.722	0.722	0.773	0.773	0.681	0.681	0.500	0.500	0.680	0.680	0.869	0.869	1.079	1.079	1.237	1.237	1.361	1.361

Notes: The data are stacked so that there are two observations per respondent for the two rounds of the DG. All columns include fixed effects for player 2 characteristics: gender, educational attainment, grew up in a rural area, strength of belief in Christian God, and same tribe as player 1. Odd-numbered columns include fixed effects for the equivalent player 1 characteristics. Even-numbered columns include player 1 fixed effects. *Appropriate to Send [...] CF* to Other Player is a 1 to 4 variable, where (1) is very socially inappropriate, (2) is somewhat socially inappropriate, (3) is somewhat socially appropriate, and (4) is very socially appropriate. *Traditional Beliefs* is a variable from 1 to 4, where (1) is weak traditional beliefs, (2) neither weak nor strong traditional beliefs, (3) strong traditional beliefs, and (4) very strong traditional beliefs. All columns include indicators for each category of strength of belief, where the omitted category is weak traditional beliefs. Robust standard errors are reported in []. Standard errors clustered at the individual level in (). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table S6: DG Appropriate to Send [...] CF: Measuring Traditional Beliefs Using Indicator Variables for Each Category: Rural Sample

	OLS, Dep. Var.: Appropriate to Send [...] CF to the Other Player, 1-4																					
	0 CF		*100 CF*		*200 CF*		*300 CF*		*400 CF*		*500 CF*		*600 CF*		*700 CF*		*800 CF*		*900 CF*		*1000 CF*	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
Player 2's Traditional Beliefs:																						
Neither Weak nor Strong	-0.026	0.034	0.020	0.028	0.035	0.007	0.002	-0.025	-0.015	0.003	-0.011	-0.037	0.017	0.065	-0.044	-0.106	-0.035	-0.133	-0.030	-0.135	-0.013	-0.043
	[0.028]	[0.051]	[0.061]	[0.061]	[0.068]	[0.063]	[0.065]	[0.059]	[0.053]	[0.055]	[0.032]	[0.053]	[0.067]	[0.079]	[0.081]	[0.082]	[0.095]	[0.087]	[0.104]	[0.085]	[0.108]	[0.085]
	(0.028)	(0.073)	(0.060)	(0.087)	(0.067)	(0.089)	(0.064)	(0.083)	(0.053)	(0.078)	(0.032)	(0.075)	(0.066)	(0.112)	(0.080)	(0.115)	(0.094)	(0.123)	(0.104)	(0.120)	(0.108)	(0.120)
Strong	0.047	0.099	0.075	0.082	0.062	0.009	0.015	-0.023	0.008	0.024	-0.085	-0.098	-0.151	-0.142	-0.171	-0.253	-0.141	-0.240	-0.187	-0.303	-0.194	-0.244
	[0.033]	[0.042]**	[0.063]	[0.054]	[0.069]	[0.054]	[0.065]	[0.052]	[0.055]	[0.047]	[0.040]**	[0.048]**	[0.072]**	[0.069]**	[0.083]**	[0.072]***	[0.095]	[0.077]***	[0.104]*	[0.073]***	[0.106]*	[0.074]***
	(0.029)	(0.059)**	(0.054)	(0.076)	(0.058)	(0.076)	(0.055)	(0.073)	(0.048)	(0.066)	(0.038)**	(0.069)**	(0.065)**	(0.098)**	(0.073)**	(0.102)***	(0.082)	(0.109)***	(0.087)*	(0.104)***	(0.088)*	(0.105)***
Very Strong	0.117	0.134	0.112	0.109	0.122	0.134	0.107	0.102	0.044	0.043	-0.094	-0.109	-0.152	-0.100	-0.160	-0.140	-0.113	-0.122	-0.174	-0.179	-0.153	-0.142
	[0.044]***	[0.051]***	[0.066]*	[0.054]**	[0.071]*	[0.055]**	[0.066]	[0.051]**	[0.054]	[0.049]	[0.043]**	[0.049]**	[0.073]**	[0.071]	[0.084]*	[0.074]*	[0.096]	[0.079]	[0.104]*	[0.079]**	[0.107]	[0.078]*
	(0.044)***	(0.073)***	(0.057)*	(0.077)**	(0.062)*	(0.078)**	(0.056)	(0.072)**	(0.048)	(0.070)	(0.041)**	(0.069)**	(0.066)**	(0.100)	(0.073)*	(0.104)*	(0.083)	(0.112)	(0.089)*	(0.111)**	(0.090)	(0.110)*
Player 1's Traditional Beliefs:																						
Neither Weak nor Strong	0.073		0.462		0.543		0.431		0.134		-0.152		-0.145		-0.038		-0.195		-0.102		-0.157	
	[0.051]		[0.103]***		[0.116]***		[0.101]***		[0.076]*		[0.078]*		[0.109]		[0.129]		[0.146]		[0.159]		[0.169]	
	(0.056)		(0.127)***		(0.146)***		(0.126)***		(0.083)*		(0.083)*		(0.120)		(0.154)		(0.176)		(0.201)		(0.211)	
Strong	0.056		0.284		0.413		0.392		0.211		-0.023		-0.271		-0.167		-0.066		-0.009		-0.149	
	[0.033]*		[0.061]***		[0.070]***		[0.065]***		[0.056]***		[0.043]		[0.072]***		[0.088]*		[0.100]		[0.112]		[0.114]	
	(0.033)*		(0.075)***		(0.087)***		(0.081)***		(0.068)***		(0.048)		(0.085)***		(0.110)*		(0.126)		(0.145)		(0.150)	
Very Strong	0.084		0.259		0.394		0.326		0.182		-0.063		-0.181		-0.150		-0.140		-0.057		-0.152	
	[0.032]***		[0.054]***		[0.066]***		[0.063]***		[0.053]***		[0.039]		[0.065]***		[0.081]*		[0.092]		[0.103]		[0.106]	
	(0.032)***		(0.067)***		(0.081)***		(0.078)***		(0.066)***		(0.044)		(0.076)***		(0.100)*		(0.117)		(0.134)		(0.139)	
Player 1 FE	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y
Sample FE	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Observations	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192
Respondents	596	596	596	596	596	596	596	596	596	596	596	596	596	596	596	596	596	596	596	596	596	596
Mean Dep. Var.	1.097	1.097	1.520	1.520	1.951	1.951	2.395	2.395	2.893	2.893	3.810	3.810	3.323	3.323	2.902	2.902	2.463	2.463	2.084	2.084	1.831	1.831
SD Dep. Var.	0.450	0.450	0.771	0.771	0.847	0.847	0.788	0.788	0.655	0.655	0.515	0.515	0.872	0.872	1.007	1.007	1.148	1.148	1.243	1.243	1.267	1.267

Notes: The data are stacked so that there are two observations per respondent for the two rounds of the DG. All columns include fixed effects for player 2 characteristics: gender, educational attainment, grew up in a rural area, strength of belief in Christian God, and same tribe as player 1. Odd-numbered columns include fixed effects for the equivalent player 1 characteristics. Even-numbered columns include player 1 fixed effects. *Appropriate to Send [...] CF* to Other Player is a 1 to 4 variable, where (1) is very socially inappropriate, (2) is somewhat socially inappropriate, (3) is somewhat socially appropriate, and (4) is very socially appropriate. *Traditional Beliefs* is a variable from 1 to 4, where (1) is weak traditional beliefs, (2) neither weak nor strong traditional beliefs, (3) strong traditional beliefs, and (4) very strong traditional beliefs. All columns include indicators for each category of strength of belief, where the omitted category is weak traditional beliefs. Robust standard errors are reported in []. Standard errors clustered at the individual level in (). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table S7: DG Appropriate to Send [...] CF: Measuring Traditional Beliefs Using Indicator Variables for Each Category: Both Samples

	OLS, Dep. Var.: Appropriate to Send [...] CF to the Other Player, 1-4																					
	0 CF		*100 CF*		*200 CF*		*300 CF*		*400 CF*		*500 CF*		*600 CF*		*700 CF*		*800 CF*		*900 CF*		*1000 CF*	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
Player 2's Traditional Beliefs:																						
Neither Weak nor Strong	-0.014	0.015	0.029	0.097	-0.024	0.043	-0.051	0.007	-0.008	0.047	-0.007	-0.022	-0.058	0.005	-0.129	-0.139	-0.103	-0.082	-0.097	-0.119	-0.086	-0.093
	[0.018]	[0.031]	[0.043]	[0.042]**	[0.048]	[0.046]	[0.049]	[0.041]	[0.041]	[0.039]	[0.026]	[0.037]	[0.047]	[0.053]	[0.058]**	[0.055]**	[0.071]	[0.059]	[0.079]	[0.059]**	[0.084]	[0.062]
	(0.019)	(0.044)	(0.043)	(0.060)**	(0.048)	(0.064)	(0.049)	(0.058)	(0.041)	(0.055)	(0.026)	(0.053)	(0.047)	(0.075)	(0.058)**	(0.078)**	(0.070)	(0.084)	(0.079)	(0.083)**	(0.083)	(0.088)
Strong	0.028	0.051	0.084	0.145	0.059	0.077	0.011	-0.002	0.019	0.038	-0.074	-0.081	-0.155	-0.131	-0.186	-0.216	-0.176	-0.193	-0.204	-0.254	-0.240	-0.266
	[0.021]	[0.026]*	[0.043]*	[0.036]***	[0.049]	[0.038]**	[0.049]	[0.034]	[0.042]	[0.031]	[0.030]**	[0.034]**	[0.048]***	[0.043]***	[0.058]***	[0.047]***	[0.069]**	[0.051]***	[0.077]***	[0.052]***	[0.081]***	[0.054]***
	(0.019)	(0.037)*	(0.037)*	(0.051)***	(0.040)	(0.053)**	(0.040)	(0.048)	(0.036)	(0.044)	(0.029)**	(0.048)**	(0.043)***	(0.061)***	(0.050)***	(0.067)***	(0.058)**	(0.072)***	(0.063)***	(0.074)***	(0.065)***	(0.076)***
Very Strong	0.073	0.080	0.103	0.104	0.080	0.123	0.040	0.109	0.034	0.071	-0.091	-0.096	-0.137	-0.091	-0.180	-0.159	-0.153	-0.115	-0.203	-0.178	-0.213	-0.197
	[0.027]***	[0.030]***	[0.045]**	[0.039]***	[0.049]	[0.040]***	[0.048]	[0.036]***	[0.040]	[0.034]**	[0.032]***	[0.035]***	[0.048]***	[0.047]*	[0.058]***	[0.049]***	[0.069]**	[0.053]**	[0.076]***	[0.052]***	[0.082]***	[0.055]***
	(0.026)***	(0.043)***	(0.039)**	(0.055)***	(0.043)	(0.056)***	(0.040)	(0.051)***	(0.035)	(0.047)**	(0.030)***	(0.049)***	(0.044)***	(0.066)*	(0.050)***	(0.069)***	(0.059)**	(0.075)**	(0.064)***	(0.074)***	(0.068)***	(0.077)***
Player 1's Traditional Beliefs:																						
Neither Weak nor Strong	0.039		0.152		0.161		0.102		-0.081		-0.107		-0.212		-0.091		-0.195		-0.084		-0.158	
	[0.026]		[0.066]**		[0.078]**		[0.077]		[0.067]		[0.050]**		[0.073]***		[0.085]		[0.100]*		[0.114]		[0.123]	
	(0.029)		(0.080)**		(0.098)**		(0.099)		(0.083)		(0.056)**		(0.083)***		(0.102)		(0.126)*		(0.145)		(0.155)	
Strong	0.034		0.075		0.186		0.193		0.119		-0.056		-0.164		-0.142		-0.118		-0.130		-0.204	
	[0.021]*		[0.048]		[0.055]***		[0.053]***		[0.044]***		[0.034]*		[0.051]***		[0.065]**		[0.076]		[0.086]		[0.090]**	
	(0.021)*		(0.059)		(0.069)***		(0.068)***		(0.055)***		(0.038)*		(0.061)***		(0.081)**		(0.097)		(0.112)		(0.119)**	
Very Strong	0.062		0.147		0.227		0.174		0.096		-0.037		-0.146		-0.121		-0.097		-0.072		-0.085	
	[0.020]***		[0.044]***		[0.051]***		[0.049]***		[0.042]**		[0.031]		[0.047]***		[0.059]**		[0.070]		[0.079]		[0.083]	
	(0.020)***		(0.055)***		(0.064)***		(0.064)***		(0.053)**		(0.035)		(0.055)***		(0.074)**		(0.090)		(0.104)		(0.110)	
Player 1 FE	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y
Sample FE	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Observations	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090
Respondents	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045
Mean Dep. Var.	1.069	1.069	1.469	1.469	1.914	1.914	2.363	2.363	2.846	2.846	3.788	3.788	3.415	3.415	3.038	3.038	2.624	2.624	2.285	2.285	2.056	2.056
SD Dep. Var.	0.373	0.373	0.720	0.720	0.797	0.797	0.782	0.782	0.669	0.669	0.509	0.509	0.802	0.802	0.963	0.963	1.134	1.134	1.262	1.262	1.333	1.333

Notes: The data are stacked so that there are two observations per respondent for the two rounds of the DG. All columns include fixed effects for player 2 characteristics: gender, educational attainment, grew up in a rural area, strength of belief in Christian God, and same tribe as player 1. Odd-numbered columns include fixed effects for the equivalent player 1 characteristics. Even-numbered columns include player 1 fixed effects. *Appropriate to Send [...] CF* to Other Player is a 1 to 4 variable, where (1) is very socially inappropriate, (2) is somewhat socially inappropriate, (3) is somewhat socially appropriate, and (4) is very socially appropriate. *Traditional Beliefs* is a variable from 1 to 4, where (1) is weak traditional beliefs, (2) neither weak nor strong traditional beliefs, (3) strong traditional beliefs, and (4) very strong traditional beliefs. All columns include indicators for each category of strength of belief, where the omitted category is weak traditional beliefs. Robust standard errors are reported in []. Standard errors clustered at the individual level in (). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table S8: CYD Appropriate to Choose Player Estimates: Measuring Traditional Beliefs Using Indicator Variables for Each Category

	OLS, Dep. Var.: Appropriate to Chose Player, 1-4					
	Urban Sample		*Rural Sample*		*Both Samples*	
	(1)	(2)	(3)	(4)	(5)	(6)
Player 2's Traditional Beliefs:						
Neither Weak nor Strong	0.185	0.232	-0.141	-0.158	0.004	0.011
	[0.057]***	[0.072]***	[0.054]***	[0.069]**	[0.040]	[0.050]
	(0.056)***	(0.082)***	(0.055)***	(0.078)**	(0.040)	(0.057)
Strong	-0.572	-0.539	-0.869	-0.879	-0.739	-0.733
	[0.063]***	[0.067]***	[0.058]***	[0.063]***	[0.043]***	[0.046]***
	(0.074)***	(0.089)***	(0.065)***	(0.078)***	(0.049)***	(0.060)***
Very Strong	-0.672	-0.659	-0.777	-0.782	-0.727	-0.724
	[0.061]***	[0.065]***	[0.058]***	[0.066]***	[0.042]***	[0.046]***
	(0.073)***	(0.087)***	(0.066)***	(0.082)***	(0.049)***	(0.060)***
Player 1's Traditional Beliefs:						
Neither Weak nor Strong	0.070		-0.060		-0.004	
	[0.086]		[0.096]		[0.065]	
	(0.076)		(0.095)		(0.061)	
Strong	0.058		-0.121		-0.048	
	[0.067]		[0.066]*		[0.048]	
	(0.065)		(0.065)*		(0.047)	
Very Strong	0.017		-0.049		-0.020	
	[0.063]		[0.062]		[0.045]	
	(0.062)		(0.059)		(0.043)	
Player 1 FE	N	Y	N	Y	N	Y
Sample FE	N	N	N	N	Y	Y
Observations	1,796	1,796	2,384	2,384	4,180	4,180
Respondents	449	449	596	596	1,045	1,045
Mean Dep. Var.	3.076	3.076	2.811	2.811	2.925	2.925
SD Dep. Var.	0.984	0.984	1.125	1.125	1.075	1.075

Notes: The data are stacked so that there are four observations per respondent, one corresponding to each person that they could choose between for the two rounds of the CYD. All columns include fixed effects for player 2 characteristics: gender, educational attainment, grew up in a rural area, strength of belief in Christian God, and same tribe as player 1. Odd-numbered columns include fixed effects for the equivalent player 1 characteristics. Even-numbered columns include player 1 fixed effects. *Appropriate to Choose Player* is a 1 to 4 variable, where (1) is very socially inappropriate, (2) is somewhat socially inappropriate, (3) is somewhat socially appropriate, and (4) is very socially appropriate. *Traditional Beliefs* is a variable from 1 to 4, where (1) is weak traditional beliefs, (2) neither weak nor strong traditional beliefs, (3) strong traditional beliefs, and (4) very strong traditional beliefs. All columns include indicators for each category of strength of belief, where the omitted category is weak traditional beliefs. Robust standard errors are reported in []. Standard errors clustered at the individual level in (). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table S9: JOD Appropriate to [...]: Measuring Traditional Beliefs Using Indicator Variables for Each Category

	OLS, Dep. Var.: Appropriate to [...] the Endowment of Other Player, 1-4																	
	Urban Sample						*Rural Sample*						*Both Samples*					
	Decrease		*Nothing*		*Increase*		*Decrease*		*Nothing*		*Increase*		*Decrease*		*Nothing*		*Increase*	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Player 2's Traditional Beliefs:																		
Neither Weak nor Strong	0.040	0.076	-0.112	-0.035	-0.024	-0.060	0.026	-0.033	0.024	0.023	0.101	0.025	0.038	0.017	-0.031	-0.001	0.038	-0.008
	[0.046]	[0.058]	[0.065]*	[0.053]	[0.061]	[0.070]	[0.063]	[0.081]	[0.053]	[0.059]	[0.072]	[0.082]	[0.041]	[0.053]	[0.042]	[0.040]	[0.049]	[0.055]
	(0.046)	(0.082)	(0.065)*	(0.075)	(0.062)	(0.098)	(0.063)	(0.115)	(0.053)	(0.083)	(0.072)	(0.116)	(0.041)	(0.074)	(0.042)	(0.057)	(0.049)	(0.078)
Strong	0.143	0.134	-0.058	0.021	-0.100	-0.118	0.243	0.247	-0.021	-0.014	-0.195	-0.218	0.205	0.199	-0.040	0.001	-0.162	-0.170
	[0.051]***	[0.054]**	[0.064]	[0.050]	[0.063]	[0.066]*	[0.071]***	[0.069]***	[0.056]	[0.048]	[0.080]**	[0.075]***	[0.046]***	[0.045]***	[0.042]	[0.034]	[0.053]***	[0.051]***
	(0.046)***	(0.076)**	(0.054)	(0.070)	(0.054)	(0.094)*	(0.064)***	(0.098)***	(0.049)	(0.068)	(0.072)**	(0.106)***	(0.042)***	(0.064)***	(0.036)	(0.048)	(0.047)***	(0.072)***
Very Strong	0.097	0.151	-0.029	-0.028	-0.086	-0.122	0.240	0.192	-0.023	-0.036	-0.137	-0.194	0.180	0.174	-0.019	-0.033	-0.120	-0.163
	[0.049]**	[0.050]***	[0.065]	[0.049]	[0.060]	[0.057]**	[0.070]***	[0.070]***	[0.056]	[0.048]	[0.080]*	[0.069]***	[0.045]***	[0.045]***	[0.043]	[0.035]	[0.052]**	[0.046]***
	(0.045)**	(0.071)***	(0.055)	(0.069)	(0.056)	(0.081)**	(0.064)***	(0.099)***	(0.049)	(0.068)	(0.069)*	(0.098)***	(0.041)***	(0.064)***	(0.037)	(0.049)	(0.046)**	(0.066)***
Player 1's Traditional Beliefs:																		
Neither Weak nor Strong	0.010		0.120		0.062		0.288		-0.015		-0.312		0.171		0.045		-0.150	
	[0.077]		[0.098]		[0.084]		[0.122]**		[0.082]		[0.132]**		[0.071]**		[0.062]		[0.077]*	
	(0.090)		(0.122)		(0.096)		(0.139)**		(0.096)		(0.153)**		(0.082)**		(0.075)		(0.089)*	
Strong	-0.008		0.053		0.003		0.171		-0.027		-0.354		0.100		0.016		-0.214	
	[0.058]		[0.083]		[0.072]		[0.073]**		[0.059]		[0.086]***		[0.049]**		[0.048]		[0.059]***	
	(0.067)		(0.104)		(0.083)		(0.084)**		(0.069)		(0.104)***		(0.057)**		(0.058)		(0.071)***	
Very Strong	0.001		0.152		0.037		0.219		-0.056		-0.234		0.124		0.050		-0.129	
	[0.053]		[0.077]**		[0.066]		[0.068]***		[0.054]		[0.075]***		[0.045]***		[0.045]		[0.052]**	
	(0.061)		(0.099)**		(0.077)		(0.080)***		(0.064)		(0.095)***		(0.053)***		(0.056)		(0.065)**	
Player 1 FE	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y
Sample FE	N	N	N	N	N	N	N	N	N	N	N	N	Y	Y	Y	Y	Y	Y
Observations	898	898	898	898	898	898	1,192	1,192	1,192	1,192	1,192	1,192	2,090	2,090	2,090	2,090	2,090	2,090
Respondents	449	449	449	449	449	449	596	596	596	596	596	596	1,045	1,045	1,045	1,045	1,045	1,045
Mean Dep. Var.	1.239	1.239	3.385	3.385	3.653	3.653	1.538	1.538	3.608	3.608	3.253	3.253	1.410	1.410	3.512	3.512	3.424	3.424
SD Dep. Var.	0.556	0.556	0.696	0.696	0.657	0.657	0.886	0.886	0.680	0.680	0.968	0.968	0.776	0.776	0.695	0.695	0.871	0.871

Notes: The data are stacked so that there are two observations per respondent for the two rounds of the JOD. All columns include fixed effects for player 2 characteristics: gender, educational attainment, grew up in a rural area, strength of belief in Christian God, and same tribe as player 1. Odd-numbered columns include fixed effects for the equivalent player 1 characteristics. Even-numbered columns include player 1 fixed effects. *Appropriate to [...] the Endowment of Other Player* is a 1 to 4 variable, where (1) is very socially inappropriate, (2) is somewhat socially inappropriate, (3) is somewhat socially appropriate, and (4) is very socially appropriate. *Traditional Beliefs* is a variable from 1 to 4, where (1) is weak traditional beliefs, (2) neither weak nor strong traditional beliefs, (3) strong traditional beliefs, and (4) very strong traditional beliefs. All columns include indicators for each category of strength of belief, where the omitted category is weak traditional beliefs. Robust standard errors are reported in []. Standard errors clustered at the individual level in (). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table S10: DG Appropriate to Send [...] CF: Interaction Between Player 1's Traditional Beliefs and Player 2's Traditional Beliefs: Urban Sample

	OLS, Dep. Var.: Appropriate to Send [...] CF to the Other Player, 1-4																					
	0 CF		*100 CF*		*200 CF*		*300 CF*		*400 CF*		*500 CF*		*600 CF*		*700 CF*		*800 CF*		*900 CF*		*1000 CF*	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
Player 2's Traditional Beliefs:																						
Integer Measure, 1-4	0.012	0.008	0.030	0.026	-0.017	0.008	-0.059	-0.034	-0.016	-0.026	-0.002	-0.016	-0.049	0.012	-0.072	-0.006	-0.106	-0.019	-0.062	-0.003	-0.141	-0.160
	[0.013]	[0.014]	[0.059]	[0.045]	[0.068]	[0.047]	[0.072]	[0.036]	[0.062]	[0.034]	[0.039]	[0.040]	[0.058]	[0.043]	[0.075]	[0.047]	[0.095]	[0.053]	[0.109]	[0.062]	[0.121]	[0.070]**
	(0.013)	(0.020)	(0.043)	(0.063)	(0.048)	(0.067)	(0.045)	(0.051)	(0.040)	(0.048)	(0.035)	(0.057)	(0.045)	(0.061)	(0.049)	(0.067)	(0.064)	(0.074)	(0.075)	(0.087)	(0.085)	(0.098)**
Player 1's Traditional Beliefs:																						
Integer Measure, 1-4	0.020		0.004		-0.017		-0.038		-0.007		0.022		-0.021		-0.037		-0.042		-0.031		-0.028	
	[0.016]		[0.047]		[0.055]		[0.058]		[0.053]		[0.031]		[0.048]		[0.062]		[0.081]		[0.092]		[0.102]	
	(0.016)		(0.038)		(0.045)		(0.048)		(0.045)		(0.028)		(0.041)		(0.049)		(0.065)		(0.073)		(0.084)	
Interactions between Player 1's & Player 2's Traditional Beliefs:																						
Integer Measure, 1-4	-0.003	-0.002	0.000	0.003	0.014	0.012	0.019	0.020	0.008	0.015	-0.010	-0.006	0.005	-0.012	0.005	-0.014	0.014	-0.011	-0.004	-0.021	0.015	0.020
× Integer Measure, 1-4	[0.005]	[0.006]	[0.018]	[0.014]	[0.020]	[0.014]	[0.021]	[0.011]*	[0.018]	[0.011]	[0.012]	[0.012]	[0.018]	[0.013]	[0.023]	[0.014]	[0.029]	[0.016]	[0.033]	[0.017]	[0.037]	[0.020]
	(0.005)	(0.008)	(0.013)	(0.019)	(0.015)	(0.020)	(0.014)	(0.016)*	(0.012)	(0.015)	(0.011)	(0.017)	(0.014)	(0.019)	(0.015)	(0.020)	(0.019)	(0.022)	(0.022)	(0.025)	(0.025)	(0.029)
Player 1 FE	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y
Sample FE	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Observations	898	898	898	898	898	898	898	898	898	898	898	898	898	898	898	898	898	898	898	898	898	898
Respondents	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449
Mean Dep. Var.	1.031	1.031	1.402	1.402	1.864	1.864	2.321	2.321	2.784	2.784	3.759	3.759	3.537	3.537	3.218	3.218	2.837	2.837	2.551	2.551	2.354	2.354
SD Dep. Var.	0.229	0.229	0.640	0.640	0.722	0.722	0.773	0.773	0.681	0.681	0.500	0.500	0.680	0.680	0.869	0.869	1.079	1.079	1.237	1.237	1.361	1.361

Notes: The data are stacked so that there are two observations per respondent for the two rounds of the DG. All columns include fixed effects for player 2 characteristics: gender, educational attainment, grew up in a rural area, strength of belief in Christian God, and same tribe as player 1. Odd-numbered columns include fixed effects for the equivalent player 1 characteristics. Even-numbered columns include player 1 fixed effects. *Appropriate to Send [...] CF* to Other Player is a 1 to 4 variable, where (1) is very socially inappropriate, (2) is somewhat socially inappropriate, (3) is somewhat socially appropriate, and (4) is very socially appropriate. *Traditional Beliefs* is a variable from 1 to 4, where (1) is weak traditional beliefs, (2) neither weak nor strong traditional beliefs, (3) strong traditional beliefs, and (4) very strong traditional beliefs. All columns present the results with traditional beliefs as a 1 to 4 variable. Robust standard errors are reported in []. Standard errors clustered at the individual level in (). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table S11: DG Appropriate to Send [...] CF: Interaction Between Player 1's Traditional Beliefs and Player 2's Traditional Beliefs: Urban Sample

	OLS, Dep. Var.: Appropriate to Send [...] CF to the Other Player, 1-4																					
	0 CF		*100 CF*		*200 CF*		*300 CF*		*400 CF*		*500 CF*		*600 CF*		*700 CF*		*800 CF*		*900 CF*		*1000 CF*	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
Player 2's Traditional Beliefs:																						
Strong or Very Strong	0.004	0.006	0.065	0.072	0.035	0.039	-0.072	-0.059	-0.009	-0.005	-0.034	-0.027	0.029	0.031	-0.088	-0.092	-0.095	-0.108	-0.057	-0.067	-0.206	-0.212
	[0.015]	[0.015]	[0.088]	[0.066]	[0.104]	[0.068]	[0.109]	[0.054]	[0.100]	[0.053]	[0.064]	[0.052]	[0.090]	[0.065]	[0.111]	[0.074]	[0.140]	[0.071]	[0.163]	[0.094]	[0.179]	[0.103]**
	(0.015)	(0.021)	(0.066)	(0.094)	(0.069)	(0.097)	(0.058)	(0.076)	(0.054)	(0.075)	(0.052)	(0.074)	(0.066)	(0.092)	(0.076)	(0.105)	(0.074)	(0.101)	(0.099)	(0.133)	(0.108)	(0.145)**
Player 1's Traditional Beliefs:																						
Strong or Very Strong	0.025		-0.033		0.004		-0.023		0.067		-0.000		0.102		-0.052		-0.022		-0.112		-0.062	
	[0.019]		[0.070]		[0.083]		[0.088]		[0.082]		[0.048]		[0.077]		[0.093]		[0.119]		[0.137]		[0.151]	
	(0.018)		(0.071)		(0.083)		(0.089)		(0.083)		(0.048)		(0.077)		(0.093)		(0.120)		(0.138)		(0.151)	
Interactions between Player 1's & Player 2's Traditional Beliefs:																						
Strong or Very Strong	-0.003	-0.003	0.007	0.001	0.082	0.081	0.148	0.143	0.045	0.041	-0.052	-0.062	-0.117	-0.115	0.005	0.010	-0.026	-0.015	-0.111	-0.095	0.006	0.014
× Strong or Very Strong	[0.025]	[0.024]	[0.100]	[0.074]	[0.117]	[0.078]	[0.124]	[0.063]**	[0.111]	[0.061]	[0.075]	[0.060]	[0.104]	[0.075]	[0.130]	[0.084]	[0.163]	[0.084]	[0.188]	[0.103]	[0.208]	[0.112]
	(0.024)	(0.035)	(0.074)	(0.105)	(0.078)	(0.110)	(0.067)	(0.089)**	(0.062)	(0.086)	(0.059)	(0.085)	(0.077)	(0.106)	(0.085)	(0.118)	(0.088)	(0.119)	(0.108)	(0.145)	(0.118)	(0.158)
Player 1 FE	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y
Sample FE	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Observations	898	898	898	898	898	898	898	898	898	898	898	898	898	898	898	898	898	898	898	898	898	898
Respondents	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449	449
Mean Dep. Var.	1.031	1.031	1.402	1.402	1.864	1.864	2.321	2.321	2.784	2.784	3.759	3.759	3.537	3.537	3.218	3.218	2.837	2.837	2.551	2.551	2.354	2.354
SD Dep. Var.	0.229	0.229	0.640	0.640	0.722	0.722	0.773	0.773	0.681	0.681	0.500	0.500	0.680	0.680	0.869	0.869	1.079	1.079	1.237	1.237	1.361	1.361

Notes: The data are stacked so that there are two observations per respondent for the two rounds of the DG. All columns include fixed effects for player 2 characteristics: gender, educational attainment, grew up in a rural area, strength of belief in Christian God, and same tribe as player 1. Odd-numbered columns include fixed effects for the equivalent player 1 characteristics. Even-numbered columns include player 1 fixed effects. *Appropriate to Send [...] CF* to Other Player is a 1 to 4 variable, where (1) is very socially inappropriate, (2) is somewhat socially inappropriate, (3) is somewhat socially appropriate, and (4) is very socially appropriate. *Traditional Beliefs* is a variable from 1 to 4, where (1) is weak traditional beliefs, (2) neither weak nor strong traditional beliefs, (3) strong traditional beliefs, and (4) very strong traditional beliefs. All columns present the results with an indicator variable that equals 1 if an individual has strong or very strong traditional beliefs, where the omitted category is weak traditional beliefs or neither weak nor strong traditional beliefs. Robust standard errors are reported in []. Standard errors clustered at the individual level in (). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table S12: DG Appropriate to Send [...] CF: Interaction Between Player 1's Traditional Beliefs and Player 2's Traditional Beliefs: Rural Sample

	OLS, Dep. Var.: Appropriate to Send [...] CF to the Other Player, 1-4																					
	0 CF		*100 CF*		*200 CF*		*300 CF*		*400 CF*		*500 CF*		*600 CF*		*700 CF*		*800 CF*		*900 CF*		*1000 CF*	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
Player 2's Traditional Beliefs:																						
Integer Measure, 1-4	0.000	0.003	0.004	-0.018	-0.017	-0.027	0.047	0.019	0.043	0.021	0.005	-0.011	-0.000	-0.027	0.104	0.068	0.029	0.008	0.010	-0.027	0.097	0.064
	[0.027]	[0.027]	[0.052]	[0.035]	[0.061]	[0.039]	[0.060]	[0.040]	[0.045]	[0.034]	[0.035]	[0.034]	[0.057]	[0.049]	[0.072]	[0.052]	[0.084]	[0.058]	[0.098]	[0.060]	[0.101]	[0.057]
	(0.026)	(0.038)	(0.038)	(0.049)	(0.044)	(0.055)	(0.042)	(0.056)	(0.036)	(0.049)	(0.030)	(0.048)	(0.048)	(0.070)	(0.054)	(0.073)	(0.062)	(0.082)	(0.068)	(0.085)	(0.067)	(0.081)
Player 1's Traditional Beliefs:																						
Integer Measure, 1-4	-0.010		0.038		0.064		0.104		0.081		0.020		-0.005		0.086		0.023		0.051		0.089	
	[0.022]		[0.045]		[0.052]		[0.053]**		[0.041]**		[0.028]		[0.051]		[0.063]		[0.072]		[0.081]		[0.084]	
	(0.021)		(0.037)		(0.043)		(0.044)**		(0.036)**		(0.025)		(0.046)		(0.054)		(0.060)		(0.066)		(0.066)	
Interactions between Player 1's & Player 2's Traditional Beliefs:																						
Integer Measure, 1-4	0.014	0.015	0.011	0.019	0.018	0.021	-0.005	0.003	-0.009	-0.002	-0.013	-0.010	-0.021	-0.012	-0.054	-0.043	-0.024	-0.019	-0.026	-0.016	-0.053	-0.046
× Integer Measure, 1-4	[0.010]	[0.009]*	[0.017]	[0.011]*	[0.019]	[0.013]*	[0.019]	[0.013]	[0.015]	[0.011]	[0.011]	[0.010]	[0.018]	[0.016]	[0.023]**	[0.016]***	[0.026]	[0.018]	[0.030]	[0.018]	[0.031]*	[0.018]**
	(0.009)	(0.013)*	(0.013)	(0.016)*	(0.014)	(0.018)*	(0.014)	(0.018)	(0.011)	(0.015)	(0.010)	(0.015)	(0.015)	(0.022)	(0.017)**	(0.023)***	(0.019)	(0.026)	(0.021)	(0.026)	(0.021)*	(0.026)**
Player 1 FE	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y
Sample FE	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Observations	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192
Respondents	596	596	596	596	596	596	596	596	596	596	596	596	596	596	596	596	596	596	596	596	596	596
Mean Dep. Var.	1.097	1.097	1.520	1.520	1.951	1.951	2.395	2.395	2.893	2.893	3.810	3.810	3.323	3.323	2.902	2.902	2.463	2.463	2.084	2.084	1.831	1.831
SD Dep. Var.	0.450	0.450	0.771	0.771	0.847	0.847	0.788	0.788	0.655	0.655	0.515	0.515	0.872	0.872	1.007	1.007	1.148	1.148	1.243	1.243	1.267	1.267

Notes: The data are stacked so that there are two observations per respondent for the two rounds of the DG. All columns include fixed effects for player 2 characteristics: gender, educational attainment, grew up in a rural area, strength of belief in Christian God, and same tribe as player 1. Odd-numbered columns include fixed effects for the equivalent player 1 characteristics. Even-numbered columns include player 1 fixed effects. *Appropriate to Send [...] CF* to Other Player is a 1 to 4 variable, where (1) is very socially inappropriate, (2) is somewhat socially inappropriate, (3) is somewhat socially appropriate, and (4) is very socially appropriate. *Traditional Beliefs* is a variable from 1 to 4, where (1) is weak traditional beliefs, (2) neither weak nor strong traditional beliefs, (3) strong traditional beliefs, and (4) very strong traditional beliefs. All columns present the results with traditional beliefs as a 1 to 4 variable. Robust standard errors are reported in []. Standard errors clustered at the individual level in (). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table S13: DG Appropriate to Send [...] CF: Interaction Between Player 1's Traditional Beliefs and Player 2's Traditional Beliefs: Rural Sample

	OLS, Dep. Var.: Appropriate to Send [...] CF to the Other Player, 1-4																					
	0 CF		*100 CF*		*200 CF*		*300 CF*		*400 CF*		*500 CF*		*600 CF*		*700 CF*		*800 CF*		*900 CF*		*1000 CF*	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
Player 2's Traditional Beliefs:																						
Strong or Very Strong	0.050	0.052	0.027	0.023	-0.013	-0.014	0.011	0.013	0.037	0.037	-0.033	-0.026	-0.127	-0.125	0.004	0.005	0.005	-0.000	-0.117	-0.128	-0.020	-0.018
	[0.038]	[0.035]	[0.081]	[0.050]	[0.097]	[0.058]	[0.088]	[0.054]	[0.069]	[0.050]	[0.056]	[0.050]	[0.089]	[0.072]*	[0.112]	[0.075]	[0.127]	[0.081]	[0.143]	[0.078]	[0.149]	[0.082]
	(0.035)	(0.049)	(0.052)	(0.070)	(0.060)	(0.082)	(0.056)	(0.077)	(0.050)	(0.070)	(0.050)	(0.071)	(0.072)	(0.102)*	(0.076)	(0.106)	(0.082)	(0.115)	(0.078)	(0.111)	(0.083)	(0.117)
Player 1's Traditional Beliefs:																						
Strong or Very Strong	0.023		0.104		0.194		0.202		0.161		0.030		-0.155		-0.046		0.023		0.024		-0.007	
	[0.027]		[0.068]		[0.080]**		[0.077]***		[0.061]***		[0.041]		[0.074]**		[0.095]		[0.107]		[0.119]		[0.124]	
	(0.027)		(0.068)		(0.080)**		(0.076)***		(0.062)***		(0.042)		(0.074)**		(0.094)		(0.107)		(0.119)		(0.124)	
Interactions between Player 1's & Player 2's Traditional Beliefs:																						
Strong or Very Strong	0.062	0.063	0.075	0.077	0.116	0.109	0.065	0.053	-0.005	-0.007	-0.070	-0.077	-0.046	-0.043	-0.199	-0.198	-0.156	-0.150	-0.066	-0.056	-0.201	-0.210
× Strong or Very Strong	[0.049]	[0.045]	[0.096]	[0.060]	[0.111]	[0.068]	[0.103]	[0.064]	[0.082]	[0.059]	[0.066]	[0.059]	[0.107]	[0.087]	[0.131]	[0.089]**	[0.150]	[0.097]	[0.166]	[0.094]	[0.172]	[0.098]**
	(0.046)	(0.064)	(0.063)	(0.086)	(0.070)	(0.096)	(0.065)	(0.090)	(0.060)	(0.084)	(0.058)	(0.083)	(0.087)	(0.123)	(0.090)	(0.127)**	(0.098)	(0.138)	(0.094)	(0.133)	(0.099)	(0.139)**
Player 1 FE	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y
Sample FE	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Observations	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192	1,192
Respondents	596	596	596	596	596	596	596	596	596	596	596	596	596	596	596	596	596	596	596	596	596	596
Mean Dep. Var.	1.097	1.097	1.520	1.520	1.951	1.951	2.395	2.395	2.893	2.893	3.810	3.810	3.323	3.323	2.902	2.902	2.463	2.463	2.084	2.084	1.831	1.831
SD Dep. Var.	0.450	0.450	0.771	0.771	0.847	0.847	0.788	0.788	0.655	0.655	0.515	0.515	0.872	0.872	1.007	1.007	1.148	1.148	1.243	1.243	1.267	1.267

Notes: The data are stacked so that there are two observations per respondent for the two rounds of the DG. All columns include fixed effects for player 2 characteristics: gender, educational attainment, grew up in a rural area, strength of belief in Christian God, and same tribe as player 1. Odd-numbered columns include fixed effects for the equivalent player 1 characteristics. Even-numbered columns include player 1 fixed effects. *Appropriate to Send [...] CF* to Other Player is a 1 to 4 variable, where (1) is very socially inappropriate, (2) is somewhat socially inappropriate, (3) is somewhat socially appropriate, and (4) is very socially appropriate. *Traditional Beliefs* is a variable from 1 to 4, where (1) is weak traditional beliefs, (2) neither weak nor strong traditional beliefs, (3) strong traditional beliefs, and (4) very strong traditional beliefs. All columns present the results with an indicator variable that equals 1 if an individual has strong or very strong traditional beliefs, where the omitted category is weak traditional beliefs or neither weak nor strong traditional beliefs. Robust standard errors are reported in []. Standard errors clustered at the individual level in (). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table S14: DG Appropriate to Send [...] CF: Interaction Between Player 1's Traditional Beliefs and Player 2's Traditional Beliefs: Both Samples

	OLS, Dep. Var.: Appropriate to Send [...] CF to the Other Player, 1-4																					
	0 CF		*100 CF*		*200 CF*		*300 CF*		*400 CF*		*500 CF*		*600 CF*		*700 CF*		*800 CF*		*900 CF*		*1000 CF*	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
Player 2's Traditional Beliefs:																						
Integer Measure, 1-4	0.005	0.005	0.014	0.002	-0.019	-0.011	-0.002	-0.004	0.017	-0.002	0.003	-0.014	-0.025	-0.011	0.023	0.033	-0.036	-0.005	-0.027	-0.015	-0.015	-0.039
	[0.016]	[0.017]	[0.039]	[0.027]	[0.046]	[0.030]	[0.046]	[0.027]	[0.037]	[0.024]	[0.026]	[0.026]	[0.041]	[0.033]	[0.052]	[0.035]	[0.063]	[0.040]	[0.073]	[0.043]	[0.078]	[0.045]
	(0.016)	(0.023)	(0.028)	(0.039)	(0.033)	(0.042)	(0.030)	(0.039)	(0.027)	(0.034)	(0.023)	(0.036)	(0.033)	(0.047)	(0.038)	(0.050)	(0.045)	(0.056)	(0.050)	(0.061)	(0.053)	(0.063)
Player 1's Traditional Beliefs:																						
Integer Measure, 1-4	0.002		0.023		0.028		0.039		0.043		0.025		-0.015		0.032		-0.006		0.018		0.035	
	[0.014]		[0.033]		[0.038]		[0.039]		[0.033]		[0.021]		[0.035]		[0.044]		[0.054]		[0.061]		[0.065]	
	(0.014)		(0.026)		(0.031)		(0.032)		(0.028)		(0.019)		(0.031)		(0.037)		(0.044)		(0.049)		(0.052)	
Interactions between Player 1's & Player 2's Traditional Beliefs:																						
Integer Measure, 1-4	0.007	0.008	0.007	0.011	0.017	0.017	0.007	0.011	-0.001	0.007	-0.012	-0.007	-0.009	-0.012	-0.027	-0.029	-0.006	-0.015	-0.015	-0.019	-0.021	-0.015
× Integer Measure, 1-4	[0.006]	[0.006]	[0.012]	[0.009]	[0.014]	[0.010]*	[0.014]	[0.009]	[0.011]	[0.008]	[0.008]	[0.008]	[0.013]	[0.010]	[0.016]*	[0.011]***	[0.020]	[0.012]	[0.022]	[0.013]	[0.024]	[0.013]
	(0.006)	(0.008)	(0.009)	(0.012)	(0.010)	(0.013)*	(0.010)	(0.012)	(0.008)	(0.011)	(0.007)	(0.011)	(0.010)	(0.015)	(0.012)*	(0.015)***	(0.014)	(0.017)	(0.015)	(0.018)	(0.016)	(0.019)
Player 1 FE	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y
Sample FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Observations	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090
Respondents	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045
Mean Dep. Var.	1.069	1.069	1.469	1.469	1.914	1.914	2.363	2.363	2.846	2.846	3.788	3.788	3.415	3.415	3.038	3.038	2.624	2.624	2.285	2.285	2.056	2.056
SD Dep. Var.	0.373	0.373	0.720	0.720	0.797	0.797	0.782	0.782	0.669	0.669	0.509	0.509	0.802	0.802	0.963	0.963	1.134	1.134	1.262	1.262	1.333	1.333

Notes: The data are stacked so that there are two observations per respondent for the two rounds of the DG. All columns include fixed effects for player 2 characteristics: gender, educational attainment, grew up in a rural area, strength of belief in Christian God, and same tribe as player 1. Odd-numbered columns include fixed effects for the equivalent player 1 characteristics. Even-numbered columns include player 1 fixed effects. *Appropriate to Send [...] CF* to Other Player is a 1 to 4 variable, where (1) is very socially inappropriate, (2) is somewhat socially inappropriate, (3) is somewhat socially appropriate, and (4) is very socially appropriate. *Traditional Beliefs* is a variable from 1 to 4, where (1) is weak traditional beliefs, (2) neither weak nor strong traditional beliefs, (3) strong traditional beliefs, and (4) very strong traditional beliefs. All columns present the results with traditional beliefs as a 1 to 4 variable. Robust standard errors are reported in []. Standard errors clustered at the individual level in (). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table S15: DG Appropriate to Send [...] CF: Interaction Between Player 1's Traditional Beliefs and Player 2's Traditional Beliefs: Both Samples

	OLS, Dep. Var.: Appropriate to Send [...] CF to the Other Player, 1-4																					
	0 CF		*100 CF*		*200 CF*		*300 CF*		*400 CF*		*500 CF*		*600 CF*		*700 CF*		*800 CF*		*900 CF*		*1000 CF*	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
Player 2's Traditional Beliefs:																						
Strong or Very Strong	0.031	0.032	0.045	0.042	0.010	0.008	-0.025	-0.019	0.016	0.016	-0.033	-0.026	-0.062	-0.058	-0.041	-0.039	-0.047	-0.048	-0.100	-0.099	-0.113	-0.106
	[0.022]	[0.021]	[0.059]	[0.040]	[0.071]	[0.044]	[0.069]	[0.039]	[0.059]	[0.036]	[0.042]	[0.036]	[0.064]	[0.050]	[0.079]	[0.054]	[0.094]	[0.056]	[0.107]	[0.060]	[0.114]	[0.065]
	(0.021)	(0.030)	(0.041)	(0.057)	(0.045)	(0.062)	(0.040)	(0.055)	(0.037)	(0.051)	(0.036)	(0.051)	(0.050)	(0.070)	(0.054)	(0.076)	(0.056)	(0.079)	(0.061)	(0.085)	(0.065)	(0.092)
Player 1's Traditional Beliefs:																						
Strong or Very Strong	0.022		0.046		0.110		0.097		0.122		0.023		-0.043		-0.042		0.008		-0.026		-0.026	
	[0.017]		[0.049]		[0.058]*		[0.058]*		[0.050]**		[0.031]		[0.054]		[0.067]		[0.079]		[0.090]		[0.095]	
	(0.017)		(0.049)		(0.058)*		(0.058)*		(0.050)**		(0.031)		(0.054)		(0.067)		(0.080)		(0.090)		(0.096)	
Interactions between Player 1's & Player 2's Traditional Beliefs:																						
Strong or Very Strong	0.036	0.035	0.046	0.045	0.099	0.095	0.105	0.093	0.020	0.018	-0.063	-0.070	-0.075	-0.077	-0.104	-0.106	-0.088	-0.088	-0.073	-0.077	-0.096	-0.107
× Strong or Very Strong	[0.030]	[0.028]	[0.070]	[0.047]	[0.081]	[0.051]*	[0.079]	[0.045]**	[0.067]	[0.043]	[0.049]	[0.042]*	[0.076]	[0.059]	[0.093]	[0.062]*	[0.110]	[0.066]	[0.124]	[0.069]	[0.132]	[0.073]
	(0.028)	(0.040)	(0.048)	(0.067)	(0.052)	(0.072)*	(0.047)	(0.064)**	(0.043)	(0.061)	(0.042)	(0.059)*	(0.059)	(0.084)	(0.063)	(0.088)*	(0.067)	(0.094)	(0.070)	(0.098)	(0.074)	(0.104)
Player 1 FE	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y
Sample FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Observations	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090	2,090
Respondents	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045	1,045
Mean Dep. Var.	1.069	1.069	1.469	1.469	1.914	1.914	2.363	2.363	2.846	2.846	3.788	3.788	3.415	3.415	3.038	3.038	2.624	2.624	2.285	2.285	2.056	2.056
SD Dep. Var.	0.373	0.373	0.720	0.720	0.797	0.797	0.782	0.782	0.669	0.669	0.509	0.509	0.802	0.802	0.963	0.963	1.134	1.134	1.262	1.262	1.333	1.333

Notes: The data are stacked so that there are two observations per respondent for the two rounds of the DG. All columns include fixed effects for player 2 characteristics: gender, educational attainment, grew up in a rural area, strength of belief in Christian God, and same tribe as player 1. Odd-numbered columns include fixed effects for the equivalent player 1 characteristics. Even-numbered columns include player 1 fixed effects. *Appropriate to Send [...] CF* to Other Player is a 1 to 4 variable, where (1) is very socially inappropriate, (2) is somewhat socially inappropriate, (3) is somewhat socially appropriate, and (4) is very socially appropriate. *Traditional Beliefs* is a variable from 1 to 4, where (1) is weak traditional beliefs, (2) neither weak nor strong traditional beliefs, (3) strong traditional beliefs, and (4) very strong traditional beliefs. All columns present the results with an indicator variable that equals 1 if an individual has strong or very strong traditional beliefs, where the omitted category is weak traditional beliefs or neither weak nor strong traditional beliefs. Robust standard errors are reported in []. Standard errors clustered at the individual level in (). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table S16: CYD Appropriate to Choose Player: Interaction Between Player 1's Traditional Beliefs and Player 2's Traditional Beliefs

	OLS, Dep. Var.: Appropriate to Chose Player, 1-4											
	Urban Sample				*Rural Sample*				*Both Samples*			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Player 2's Traditional Beliefs:												
Integer Measure, 1-4	-0.377	-0.390			-0.237	-0.250			-0.292	-0.308		
	[0.055]***	[0.057]***			[0.056]***	[0.058]***			[0.040]***	[0.041]***		
	(0.073)***	(0.087)***			(0.067)***	(0.078)***			(0.050)***	(0.059)***		
Strong or Very Strong			-0.836	-0.837			-0.577	-0.576			-0.688	-0.688
			[0.082]***	[0.085]***			[0.087]***	[0.088]***			[0.061]***	[0.062]***
			(0.119)***	(0.138)***			(0.107)***	(0.122)***			(0.080)***	(0.092)***
Player 1's Traditional Beliefs:												
Integer Measure, 1-4	-0.089				0.044				-0.008			
	[0.045]**				[0.044]				[0.032]			
	(0.056)**				(0.051)				(0.038)			
Strong or Very Strong			-0.088				0.057				0.003	
			[0.063]				[0.065]				[0.046]	
			(0.071)				(0.069)				(0.050)	
Interactions between Player 1's & Player 2's Traditional Beliefs:												
Integer Measure, 1-4	0.034	0.034			-0.023	-0.024			0.000	0.001		
× Integer Measure, 1-4	[0.017]**	[0.018]*			[0.017]	[0.018]			[0.012]	[0.013]		
	(0.023)**	(0.027)*			(0.020)	(0.024)			(0.015)	(0.018)		
Strong or Very Strong			0.170	0.173			-0.236	-0.235			-0.065	-0.063
× Strong or Very Strong			[0.097]*	[0.099]*			[0.099]**	[0.100]**			[0.070]	[0.071]
			(0.137)*	(0.158)*			(0.121)**	(0.139)**			(0.091)	(0.105)
Player 1 FE	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y
Sample FE	N	N	N	N	N	N	N	N	Y	Y	Y	Y
Observations	1,796	1,796	1,796	1,796	2,384	2,384	2,384	2,384	4,180	4,180	4,180	4,180
Respondents	449	449	449	449	596	596	596	596	1,045	1,045	1,045	1,045
Mean Dep. Var.	3.076	3.076	3.076	3.076	2.811	2.811	2.811	2.811	2.925	2.925	2.925	2.925
SD Dep. Var.	0.984	0.984	0.984	0.984	1.125	1.125	1.125	1.125	1.075	1.075	1.075	1.075

Notes: The data are stacked so that there are four observations per respondent, one corresponding to each person that they could choose between for the two rounds of the CYD. All columns include fixed effects for player 2 characteristics: gender, educational attainment, grew up in a rural area, strength of belief in Christian God, and same tribe as player 1. Odd-numbered columns include fixed effects for the equivalent player 1 characteristics. Even-numbered columns include player 1 fixed effects. *Appropriate to Choose Player* is a 1 to 4 variable, where (1) is very socially inappropriate, (2) is somewhat socially inappropriate, (3) is somewhat socially appropriate, and (4) is very socially appropriate. *Traditional Beliefs* is a variable from 1 to 4, where (1) is weak traditional beliefs, (2) neither weak nor strong traditional beliefs, (3) strong traditional beliefs, and (4) very strong traditional beliefs. Columns 1, 2, 5, 6, 9, and 10 present the results with traditional beliefs as a 1 to 4 variable. Columns 3, 4, 7, 8, 11, and 12 present the results with an indicator variable that equals 1 if an individual has strong or very strong traditional beliefs, where the omitted category is weak traditional beliefs or neither weak nor strong traditional beliefs. Robust standard errors are reported in []. Standard errors clustered at the individual level in (). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table S17: JOD Appropriate to Increase: Interaction Between Player 1's Traditional Beliefs and Player 2's Traditional Beliefs

	OLS, Dep. Var.: Choice in JOD											
	Urban Sample				*Rural Sample*				*Both Samples*			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Player 2's Traditional Beliefs:												
Integer Measure, 1-4	-0.030	-0.076			0.033	-0.002			0.006	-0.032		
	[0.060]	[0.051]			[0.070]	[0.047]			[0.049]	[0.035]		
	(0.051)	(0.072)			(0.049)	(0.067)			(0.036)	(0.049)		
Strong or Very Strong			-0.112	-0.120			-0.125	-0.135			-0.122	-0.127
			[0.084]	[0.068]*			[0.111]	[0.076]*			[0.072]*	[0.052]**
			(0.067)	(0.097)*			(0.078)	(0.107)*			(0.053)*	(0.073)**
Player 1's Traditional Beliefs:												
Integer Measure, 1-4	0.010				0.022				0.016			
	[0.051]				[0.058]				[0.040]			
	(0.045)				(0.049)				(0.034)			
Strong or Very Strong			-0.021				-0.132				-0.086	
			[0.066]				[0.087]				[0.057]	
			(0.066)				(0.089)				(0.058)	
Interactions between Player 1's & Player 2's Traditional Beliefs:												
Integer Measure, 1-4	-0.001	0.011			-0.035	-0.031			-0.021	-0.014		
× Integer Measure, 1-4	[0.019]	[0.015]			[0.021]*	[0.015]**			[0.015]	[0.011]		
	(0.015)	(0.022)			(0.015)*	(0.021)**			(0.011)	(0.015)		
Strong or Very Strong			0.043	0.043			-0.127	-0.115			-0.053	-0.049
× Strong or Very Strong			[0.098]	[0.078]			[0.128]	[0.088]			[0.084]	[0.060]
			(0.078)	(0.110)			(0.091)	(0.125)			(0.062)	(0.085)
Player 1 FE	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y
Sample FE	N	N	N	N	N	N	N	N	Y	Y	Y	Y
Observations	898	898	898	898	1,192	1,192	1,192	1,192	2,090	2,090	2,090	2,090
Respondents	449	449	449	449	596	596	596	596	1,045	1,045	1,045	1,045
Mean Dep. Var.	3.653	3.653	3.653	3.653	3.253	3.253	3.253	3.253	3.424	3.424	3.424	3.424
SD Dep. Var.	0.657	0.657	0.657	0.657	0.968	0.968	0.968	0.968	0.871	0.871	0.871	0.871

Notes: The data are stacked so that there are two observations per respondent for the two rounds of the JOD. All columns include fixed effects for player 2 characteristics: gender, educational attainment, grew up in a rural area, strength of belief in Christian God, and same tribe as player 1. Odd-numbered columns include fixed effects for the equivalent player 1 characteristics. Even-numbered columns include player 1 fixed effects. *Appropriate to Increase the Endowment of Other Player* is a 1 to 4 variable, where (1) is very socially inappropriate, (2) is somewhat socially inappropriate, (3) is somewhat socially appropriate, and (4) is very socially appropriate. *Traditional Beliefs* is a variable from 1 to 4, where (1) is weak traditional beliefs, (2) neither weak nor strong traditional beliefs, (3) strong traditional beliefs, and (4) very strong traditional beliefs. Columns 1, 2, 5, 6, 9, and 10 present the results with traditional beliefs as a 1 to 4 variable. Columns 3, 4, 7, 8, 11, and 12 present the results with an indicator variable that equals 1 if an individual has strong or very strong traditional beliefs, where the omitted category is weak traditional beliefs or neither weak nor strong traditional beliefs. Robust standard errors are reported in []. Standard errors clustered at the individual level in (). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table S18: JOD Appropriate to do Nothing: Interaction Between Player 1's Traditional Beliefs and Player 2's Traditional Beliefs

	OLS, Dep. Var.: Choice in JOD											
	Urban Sample				*Rural Sample*				*Both Samples*			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Player 2's Traditional Beliefs:												
Integer Measure, 1-4	0.015	0.009			0.036	0.041			0.031	0.030		
	[0.070]	[0.047]			[0.046]	[0.038]			[0.039]	[0.030]		
	(0.052)	(0.067)			(0.038)	(0.054)			(0.031)	(0.042)		
Strong or Very Strong			0.045	0.053			0.059	0.061			0.057	0.059
			[0.096]	[0.061]			[0.073]	[0.058]			[0.059]	[0.042]
			(0.062)	(0.086)			(0.058)	(0.082)			(0.042)	(0.059)
Player 1's Traditional Beliefs:												
Integer Measure, 1-4	0.060				0.022				0.046			
	[0.058]				[0.041]				[0.034]			
	(0.049)				(0.037)				(0.030)			
Strong or Very Strong			0.091				0.024				0.070	
			[0.081]				[0.064]				[0.050]	
			(0.083)				(0.065)				(0.051)	
Interactions between Player 1's & Player 2's Traditional Beliefs:												
Integer Measure, 1-4	-0.006	-0.002			-0.016	-0.019			-0.013	-0.013		
× Integer Measure, 1-4	[0.021]	[0.013]			[0.015]	[0.012]			[0.012]	[0.009]		
	(0.015)	(0.019)			(0.012)	(0.017)			(0.009)	(0.013)		
Strong or Very Strong			-0.041	-0.054			-0.128	-0.133			-0.097	-0.103
× Strong or Very Strong			[0.109]	[0.066]			[0.086]	[0.067]**			[0.068]	[0.048]**
			(0.067)	(0.093)			(0.067)	(0.095)**			(0.048)	(0.067)**
Player 1 FE	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y
Sample FE	N	N	N	N	N	N	N	N	Y	Y	Y	Y
Observations	898	898	898	898	1,192	1,192	1,192	1,192	2,090	2,090	2,090	2,090
Respondents	449	449	449	449	596	596	596	596	1,045	1,045	1,045	1,045
Mean Dep. Var.	3.385	3.385	3.385	3.385	3.608	3.608	3.608	3.608	3.512	3.512	3.512	3.512
SD Dep. Var.	0.696	0.696	0.696	0.696	0.680	0.680	0.680	0.680	0.695	0.695	0.695	0.695

Notes: The data are stacked so that there are two observations per respondent for the two rounds of the JOD. All columns include fixed effects for player 2 characteristics: gender, educational attainment, grew up in a rural area, strength of belief in Christian God, and same tribe as player 1. Odd-numbered columns include fixed effects for the equivalent player 1 characteristics. Even-numbered columns include player 1 fixed effects. *Appropriate to do Nothing to the Endowment of Other Player* is a 1 to 4 variable, where (1) is very socially inappropriate, (2) is somewhat socially inappropriate, (3) is somewhat socially appropriate, and (4) is very socially appropriate. *Traditional Beliefs* is a variable from 1 to 4, where (1) is weak traditional beliefs, (2) neither weak nor strong traditional beliefs, (3) strong traditional beliefs, and (4) very strong traditional beliefs. Columns 1, 2, 5, 6, 9, and 10 present the results with traditional beliefs as a 1 to 4 variable. Columns 3, 4, 7, 8, 11, and 12 present the results with an indicator variable that equals 1 if an individual has strong or very strong traditional beliefs, where the omitted category is weak traditional beliefs or neither weak nor strong traditional beliefs. Robust standard errors are reported in []. Standard errors clustered at the individual level in (). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table S19: JOD Appropriate to Decrease: Interaction Between Player 1's Traditional Beliefs and Player 2's Traditional Beliefs

	OLS, Dep. Var.: Choice in JOD											
	Urban Sample				*Rural Sample*				*Both Samples*			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Player 2's Traditional Beliefs:												
Integer Measure, 1-4	0.086	0.102			0.010	0.023			0.036	0.054		
	[0.049]*	[0.043]**			[0.056]	[0.051]			[0.039]	[0.035]		
	(0.042)*	(0.061)**			(0.047)	(0.073)			(0.033)	(0.050)		
Strong or Very Strong			0.131	0.133			0.136	0.142			0.133	0.137
			[0.071]*	[0.057]**			[0.097]	[0.078]*			[0.062]**	[0.050]***
			(0.056)*	(0.081)**			(0.077)	(0.110)*			(0.050)**	(0.070)***
Player 1's Traditional Beliefs:												
Integer Measure, 1-4	0.039				-0.009				0.005			
	[0.036]				[0.048]				[0.032]			
	(0.033)				(0.044)				(0.029)			
Strong or Very Strong			0.016				0.059				0.032	
			[0.048]				[0.075]				[0.047]	
			(0.047)				(0.075)				(0.047)	
Interactions between Player 1's & Player 2's Traditional Beliefs:												
Integer Measure, 1-4	-0.015	-0.017			0.028	0.026			0.011	0.008		
× Integer Measure, 1-4	[0.015]	[0.013]			[0.018]	[0.016]			[0.012]	[0.011]		
	(0.013)	(0.019)			(0.015)	(0.022)			(0.010)	(0.015)		
Strong or Very Strong			-0.043	-0.042			0.126	0.128			0.055	0.056
× Strong or Very Strong			[0.083]	[0.066]			[0.113]	[0.091]			[0.073]	[0.058]
			(0.066)	(0.094)			(0.091)	(0.128)			(0.059)	(0.083)
Player 1 FE	N	Y	N	Y	N	Y	N	Y	N	Y	N	Y
Sample FE	N	N	N	N	N	N	N	N	Y	Y	Y	Y
Observations	898	898	898	898	1,192	1,192	1,192	1,192	2,090	2,090	2,090	2,090
Respondents	449	449	449	449	596	596	596	596	1,045	1,045	1,045	1,045
Mean Dep. Var.	1.239	1.239	1.239	1.239	1.538	1.538	1.538	1.538	1.410	1.410	1.410	1.410
SD Dep. Var.	0.556	0.556	0.556	0.556	0.886	0.886	0.886	0.886	0.776	0.776	0.776	0.776

Notes: The data are stacked so that there are two observations per respondent for the two rounds of the JOD. All columns include fixed effects for player 2 characteristics: gender, educational attainment, grew up in a rural area, strength of belief in Christian God, and same tribe as player 1. Odd-numbered columns include fixed effects for the equivalent player 1 characteristics. Even-numbered columns include player 1 fixed effects. *Appropriate to Decrease the Endowment of Other Player* is a 1 to 4 variable, where (1) is very socially inappropriate, (2) is somewhat socially inappropriate, (3) is somewhat socially appropriate, and (4) is very socially appropriate. *Traditional Beliefs* is a variable from 1 to 4, where (1) is weak traditional beliefs, (2) neither weak nor strong traditional beliefs, (3) strong traditional beliefs, and (4) very strong traditional beliefs. Columns 1, 2, 5, 6, 9, and 10 present the results with traditional beliefs as a 1 to 4 variable. Columns 3, 4, 7, 8, 11, and 12 present the results with an indicator variable that equals 1 if an individual has strong or very strong traditional beliefs, where the omitted category is weak traditional beliefs or neither weak nor strong traditional beliefs. Robust standard errors are reported in []. Standard errors clustered at the individual level in (). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.