The Social Consequences of Traditional Religion in Contemporary Africa*

Etienne Le Rossignol† Sara Lowes‡ Nathan Nunn§

Université de Namur *UC San Diego* *University of British Columbia*

24 December 2023

Abstract

In sub-Saharan Africa, despite the adoption of Christianity, traditional religious beliefs remain widely held. Within the framework of Christianity, traditional religions are linked to the devil and referred to as 'witchcraft' or 'sorcery,' which has led to the demonization and stigmatization of traditional beliefs. Motivated by this, we examine the social consequences of holding traditional religious beliefs among urban and rural populations in central Africa. Using a variety of lab-in-the-field experiments that randomize partner characteristics, we test whether individuals who believe in traditional religion are viewed or treated differently by others. We find that participants act less prosocially when paired with partners who are known to hold traditional religious beliefs. We show that this is supported by norms that prescribe that antisocial behavior is viewed as being acceptable (and prosocial behavior less acceptable) when directed towards those holding traditional beliefs, as well as the presence of negative perceptions and stereotypes of those who believe in traditional religions. The effects we find are economically important, ubiquitous, and amplified by economic development. Individual-level data from across the African continent reveal patterns consistent with our experimental findings. Those who believe in traditional religions are poorer and less happy, and this relationship is stronger in areas with more economic development. To understand the root cause of these patterns, we measure the historical penetration of Christianity among the most remote individuals in our sample, and show that our effects are amplified in locations with a greater depth of exposure to Christianity.

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

JEL Classification: O12; Z12; Z13.

* We are grateful for valuable comments and feedback received from Ben Enke, Donn Feir, Joseph Henrich, Karla Hoff, Kristin Laurin, Jordan Mubako, James Robinson, Jared Rubin, and Toni Schmader. We also thank Vafa Behnam, Aditi Chitkara, Romaine Loubes, Olaitan Ogunnote, Vibhu Pratyush, Fernando Secco, and Tanggang Yuan for excellent research assistance. The experiments were pre-registered: AEARCTR-0003276 and AEARCTR-0004878. The project received IRB approval from Harvard University CUHS IRB19-2059.

† Université de Namur. Email: `etienne.lerossignol@unamur.be`. Website: https://etiennelerossignol.com.

‡ UC San Diego, NBER, CEPR, and BREAD. Email: `slowes@ucsd.edu`. Website: www.saralowes.com.

§ Univ. of British Columbia and CIFAR. Email: `nathan.nunn@ubc.ca`. Website: https://nathannunn.arts.ubc.ca.

1. Introduction

It is clear that religion can matter for economic outcomes (Barro and McCleary, 2006, Iyer, 2016).[1] While advances in the past decades have led to a vastly-improved understanding of the consequences of religion, our understanding remains limited in two dimensions; namely (i) how an individual's religious beliefs affect how they are treated by others and (ii) the almost exclusive focus on the major world religions, particularly the Abrahamic religions. We aim to make progress by examining the social consequences of holding traditional African religious beliefs in the contemporary Democratic Republic of the Congo (DRC).

While we have a fairly good understanding of how religion affects the behaviors of those holding the beliefs,[2] we know much less about how a person's beliefs affect how they are perceived and treated by others. This gap in our understanding stands in contrast to the dominant theoretical framework for thinking about religion in economics – the club goods model – which has interpersonal relationships at its core (Iannaccone, 1992). Despite the theoretical link between religious beliefs and the social benefits one receives from others, we have a limited empirical understanding of exactly how a person's religious beliefs affect how they are perceived and treated by others.

Within economics, the focus of research has been primarily on either Christianity,[3] Judaism,[4] or Islam,[5] with a smaller literature on Confucianism.[6] The study of other traditional religions – notably African traditional religions, the focus of our study – is limited despite their importance in reality. When the religions are considered, they tend to be viewed as different from the 'major world religions' – e.g., Christianity, Judaism, and Islam – and are viewed as being somehow different. This is most clearly indicated by the terminology used when discussing African traditional religions. Non-religious terms such as 'witchcraft,' 'sorcery,' or 'black magic' are used

[1] For examples of scholarship along these lines, see Barro and McCleary (2003), Becker and Woessmann (2009), Campante and Yanagizawa-Drott (2015), Caicedo (2019), Auriol, Lassébie, Panin, Raiber and Seabright (2020), Bazzi, Koehler-Derrick and Marx (2020), Squicciarini (2020), Bryan, Choi and Karlan (2021), Montero and Yang (2022).

[2] See, for example, Weber (1930), Barro and McCleary (2003), Gruber and Hungerman (2008), Clingingsmith, Khwaja and Kremer (2009), Campante and Yanagizawa-Drott (2015), Benjamin, Choi and Fisher (2016), Fruehwirth, Iyer and Zhang (2019), Bryan et al. (2021), Montero and Yang (2022).

[3] See, for example, Benjamin et al. (2016), Caicedo (2019), Bryan et al. (2021), Montero and Yang (2022), Espin-Sanchez, Gil-Guirado and Ryan (2023).

[4] See e.g. Abramitzky (2008), Pascali (2016), Koyama and Johnson (2017).

[5] See Clingingsmith et al. (2009), Campante and Yanagizawa-Drott (2015), Bazzi et al. (2020), Mehmood, Seror and Chen (2023).

[6] See Kung and Ma (2014), Chen, Ma and Sinclair (2022).

to describe the religions, and terms like 'enchantment,' and 'spells' are used rather than religious terms like 'prayer' or 'blessings.'

The association of African traditional religions with the devil, and their resulting stigmatization, is punctuated by the recent and near-universal conversion to Christianity within the parts of Africa that were not already Islamic. Today, over 97% of the continent's population report either believing in Islam or Christianity.[7] Despite this, belief in African traditional religions has not declined and remains fairly stable at well above 50% for most countries in sub-Saharan African. People often have a dual belief system where they continue to hold traditional religious beliefs and Christian beliefs at the same time.

It is understandable that traditional religions are not abandoned because doing so would mean casting aside one's ancestral connections and relinquishing a belief system that forms the foundation of political, social, and cultural life, particularly in rural villages. In addition, research has documented that traditional beliefs have benefits at both the societal and individual levels. Traditional religion has been shown to be an important source of political authority and legitimacy (Lowes, Montero, Nunn and Robinson, 2023); to support sustainable resource management (Stoop, Verpoorten and Deconinck, 2019, Deopa, 2022); aids collective action (Nunn and Sanchez de la Sierra, 2017); and facilitates entrepreneurship and investment (Butinda, Lameke, Nunn, Posch and Sanchez de la Sierra, 2023).

Within this context, this study intends to fill an important gap in our understanding of the consequences of traditional religion within a developing country context by studying the social consequences of African traditional religions in the northern Democratic Republic of the Congo. An important motivation for our analysis are accounts of the social stigmatization of African traditional religions despite their institutional, political, and economic importance in daily life. While one can find many sensational examples of traditional beliefs resulting in mistreatment by others, such as the mistreatment of individuals believed to be 'witches' (Owusu, 2020, Miguel, 2005), it is unclear how representative these examples are and whether less-extreme but more-frequent occurrences are common. The aim of our study is to add to our understanding of the social consequences for those who hold African traditional beliefs within sub-Saharan Africa by estimating the effect that holding traditional religious beliefs has on how one is perceived and

[7] The most rapid conversions have been to born-again Evangelical denominations, whose teachings recognize traditional religious beliefs and make efforts to condemn and demonize them.

treated by others.

Our analysis uses lab-in-the-field experiments implemented in DRC, a country where traditional religious beliefs are commonplace. We randomize the known presence or absence of traditional religious beliefs of the person that a participant is paired with in various experimental tasks. This is done by randomly matching a participant to another player, while providing basic information about that other player that would typically be known in day-to-day interactions in the real world. This information includes their age group, gender, education level, whether they are coethnics, strength of Christian beliefs, strength of traditional religious beliefs, and whether they grew up in a rural or urban location. The term used for traditional religious beliefs is '*bokoko*,' which is a Lingala word that more literally means beliefs in one's ancestors but in practice captures a broader bundle of traditional religious beliefs, including what Westerners call 'witchcraft' and 'sorcery.' Consistent with the realities of daily life, both players are given the same information about the other player and this is known by both players.

The sample comprises 1,120 individuals from the north of the DRC: 520 individuals from a local urban center ("urban sample") and 600 individuals from 50 rural villages ("rural sample"). As in much of sub-Saharan Africa, our sample believes in Christianity while also continuing to hold traditional religious beliefs. Individuals in our sample report that they typically know the religious beliefs of others, including their traditional religious beliefs.

To examine how those with strong traditional beliefs are treated, we implement three lab-in-the-field experiments that are meant to mimic common social and business interactions in daily life; namely, the Dictator Game (DG), Choose Your Dictator Game (CYD), and Joy of Destruction Game (JOD). In each game, the participant completes two rounds of the game in private, each round with a different randomly-chosen other player. In the DG, player 1 chooses how much of an endowment of 1,000 Congolese Francs (CF) to allocate to player 2. CF 1,000 is equal to about half a day's average wage. The amount given in the DG is generally considered a measure of altruism. In the CYD game, the respondent chooses a person to be the dictator in a dictator game where the respondent receives the allocation chosen by the dictator. The dictator is chosen from two individuals. This is a measure of how altruistic the respondent perceives the other player to be as well as a measure of the respondent's altruism toward that player. In the JOD game, a player 1 and player 2 are each given an endowment of CF 2,000 (which is equal to approximately $1.15 (US dollars) or about 1 day's wage). Player 1 then can take one of three actions: (1) Do

nothing, in which case both players keep their endowments; (2) Pay CF 200 to reduce the other player's endowment by CF 1,000; (3) Pay CF 200 to increase the other player's endowment by CF 1,000. The JOD measures spitefulness toward the other player.

We randomly assign participants to complete lab experiments with other players who have different strengths of traditional religious beliefs (*bokoko*). We communicate basic information about the players and the communication is common knowledge. The random assignment of the players and their characteristics allows us to test whether the participants behave in a more or less cooperative and prosocial manner when paired with someone who holds stronger traditional religious beliefs.

We find that participants choose less prosocial actions 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 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. These findings are remarkably stable. When we look at behavior in the urban and rural samples and for all games, we find that across both samples and all games, stronger traditional beliefs of player 2 results in more antisocial behavior directed towards them. In addition, we find that all estimates but one (the dictator game in the rural sample) are statistically significant.[8] The effect is not dependent on any of the characteristics of player 1, including their own traditional beliefs. We find more antisocial behavior and less prosocial behavior towards those who hold traditional religious beliefs even when the respondent holds strong traditional beliefs.

We next examine the norms that underlie this behavior. Using the method developed by Krupka and Weber (2013), we measure how socially acceptable the actions in the games are when paired with a player with certain characteristics. Participants are asked how socially acceptable each possible action is that can be taken in each game (11 possible allocations in the DG, two possible choices in the CYD, and three choices in the JOD). They are asked to choose the most common response chosen by all other participants for how acceptable an action is in a game. They receive a payment if their answers are correct for all decisions for a game. Thus, their responses are incentivized, and they are not asked about their own view, but about their view of how others perceive the social acceptability of a given behavior. As before, we randomly assign each

[8] As we discuss in further detail below, this is potentially explained by the fact that the dictator game was always the first game played and comprehension was more difficult in rural areas than in the city. This may have led to less precisely estimated effects for the DG in the rural sample.

participant with another player with randomly assigned characteristics, and we stratify based on the other player's strength of traditional beliefs.

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 to not choose the individual with strong traditional beliefs as the dictator and less socially acceptable to choose them. In the JOD game, decreasing the payoff of player 2 is viewed as being more socially acceptable if the other player has stronger traditional religious beliefs and increasing the payoff of player 2 is less socially acceptable. Doing nothing is viewed as being equally acceptable regardless of player 2's traditional religious beliefs.

The magnitude of the effects are economically significant. A player 2 from the urban sample who believes in traditional religion and plays the full set of games from our study is predicted to earn \$3.15 USD. An otherwise identical player 2 who does not believe in traditional religion would earn \$3.54, a difference of 39 cents or 12.4%. For the rural sample, the same figures are \$2.97 for a believer and \$3.30 for a non-believer, a difference of 33 cents or 11.1%.

Having examined actual behavior and the perceptions of whether others view behavior as acceptable, we then turn to people's own views. We study how individuals' perceptions of another person depend on whether the other person holds traditional religious beliefs. We do this by using the "conjunction fallacy," which is a tool used to elicit perceptions that individuals have about others (Tversky and Kahneman, 1983). The measure 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 either single event. This occurs when the conjunction appears to be more representative of the person being described than the single event. One can use this to measure what traits individuals associate with a particular individual. We focus on the strength of associations between various positive and negative traits for individuals who hold traditional beliefs and those who do not.

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.

We undertake several exercises that estimate the heterogeneity of our effects to assessing the

universality of the antisocial effects we find. First, we ask whether there are any subsamples for which we do not observe the antisocial effects towards those who believe in traditional religions. We find that the effects are remarkably general. For no subgroup – based on age, income, gender, education, religious beliefs – do we find an effect that is either zero or in the opposite direction. Thus, the antisocial effects appear very general. We also find that individuals who themselves hold strong traditional beliefs treat others less prosocially in the behavioral games, have more negative views about them, and believe that less prosocial and more antisocial behavior is socially acceptable. While striking, these findings are consistent with existing evidence showing that in behavioral experiments in India, individuals from low-castes are treated less prosocially, including by other low-caste participants (Hoff, Kshetramade and Fehr, 2011).

One possibility is that the effects that we document, while unfortunate, are likely temporary and will attenuate with economic development. When individuals become more educated or are lifted out of poverty, the antisocial behavior will disappear. We find no evidence to support this view. In fact, our findings suggest the opposite: that economic development may exacerbate these effects. The only statistically significant heterogeneous effects that we find indicate that negative perceptions and treatment of traditional religious believers are significantly stronger among individuals who are wealthier and more educated. In addition, the effects that we estimate for the urban sample are always similar or larger than the effects for the rural sample. Thus, the preliminary evidence does not provide any indication that the antisocial behavior will be solved by economic development.

We also explore whether the antisocial effects are rooted in the spread of Christianity, which tends to demonize traditional religions. The difficulty of such an exercise is that for the vast majority of our sample there is little observable variation in Christian beliefs. Almost everyone reports being a strong believer in Christianity. Thus, we focus on our sample of rural Congolese villages, where the penetration of Christianity has been the most limited, and we attempt to capture the intensive margin by measuring the historical presence of Christian missions. We find that the antisocial effects are more strongly observed in locations that had a mission station in the early 20th Century.

The last exercise examines the external validity of our findings, which are from the Congo, for the rest of sub-Saharan Africa. Using data from 34 sub-Saharan African countries, we estimate the relationship between belief in witchcraft and either income or subjective well-being. Consistent

with our experimental findings, we find that individuals who believe in witchcraft are worse off. They have lower income and report lower life satisfaction. While not causal, these are the patterns that one would expect to find in observational data given our experimental findings. Also, in line with our experimental findings, we find that the relationships are larger in magnitude in countries that are more economically developed.

Our findings from the DRC are potentially informative for many other settings around the world where individuals continue to hold traditional religious beliefs. A recent study by Gershman (2022) documents that in a global sample of 120,000 individuals from 95 countries 43% of survey respondents report believing in "witchcraft." Our own calculations, based on 101 countries, yields a similar figure of 43%. Thus, traditional religious beliefs are not confined to the African continent; they are prevalent across the world today and throughout human history (Thomas, 1997, Vyse, 2014, Gershman, 2015, 2021).

The study complements existing observational research that examine the correlates of traditional belief systems, which are often described as 'witchcraft' or 'the evil eye' in surveys. Gershman (2016) documents a negative relationship between the prevalence of witchcraft beliefs and trust within regions of Africa and globally, Gershman (2022) finds that witchcraft is associated with disrupted social relations, less happiness, more anxiety, greater pessimism, less innovation, less entrepreneurship, and lower incomes, and Alesina, Hohmann, Michalopoulos and Papaioannou (2023) document lower rates of upward educational mobility among individuals who adhere to traditional religion (rather than Christianity). While these relationships are informative, especially given the dearth of empirical evidence, they stop short of providing evidence of causal effects or of specific mechanisms. Our findings raise the important possibility that the correlations arise, in large part, from those who believe in witchcraft being treated worse and not those who believe in witchcraft treating others worse.

We also contribute to empirical studies that examine the determinants of witchcraft beliefs, either historically (Oster, 2004, Leeson and Russ, 2018) or in contemporary settings (Miguel, 2005, Gershman, 2020, Stoop and Verpoorten, 2020), as well as the ethnographic literature in anthropology examining the social consequences of 'witchcraft' in sub-Saharan Africa (e.g. Krige, 1947, Gluckman, 1955, Evans-Pritchard, 1976, Geschiere, 1997, Douglas, 2004). Our results are also related to empirical studies that attempt to understand the consequences of traditional medicine (Bennett, Naqvi and Schmidt, 2018) or traditional superstitious beliefs (Mocan and Yu, 2017,

Alonso, Houssa and Verpoorten, 2016, Halla, Liu and Liu, 2019) in developing country contexts.

Our findings also contribute to a body of theoretical, case study, and observational analyses of the effects of various aspects of African traditional religious beliefs on dispute resolution (Leeson, 2014), the use of Western healthcare (Stoop et al., 2019), environmental resource management (Alonso et al., 2016, Deopa, 2022), conflict outcomes (Nunn and Sanchez de la Sierra, 2017), or retail decision making (Butinda et al., 2023). In particular, our study complements recent findings from two studies that look at the social consequences of traditional religions. Alidou and Verpoorten (2019) document a positive correlation between the West African 'voodoo' belief that women who have gone through menopause have supernatural powers and wellbeing, as proxied by the body mass index of post-menopausal women. Mace, Thomas, Wu, He, Ji and Tao (2018) study a farming community in China and, in line with our results, find that individuals who are believed to have supernatural abilities, called *zhu*, tend to have fewer social connections to non-*zhu* households, receive less farm help, and receive less money when playing the dictator game.

The results of our study contrast with functional arguments for the benefits of traditional religious beliefs. One argument is that in the absence of a well-functioning state and a strong rule of law, traditional beliefs help to ensure good behavior, since it is believed that bad behavior can be punished through the use of supernatural force (Niehaus, 2001, Johnson and Kruger, 2004, Platteau, 2009, Hadnes and Schumacher, 2012). Our finding of traditional beliefs being associated with the receipt of antisocial behavior can be interpreted as evidence against such arguments.

Finally, we also speak to the extensive literature examining the consequences of monotheistic Big God religions (e.g., Barro and McCleary, 2003, Becker and Woessmann, 2009, Norenzayan, 2013, Campante and Yanagizawa-Drott, 2015, Benjamin et al., 2016, Platteau, 2017, Rubin, 2017, Auriol et al., 2020, Bryan et al., 2021, Auriol, Delissaint, Fourati, Miquel-Florensa and Seabright, 2021, Caicedo, Dohmen and Pondorfer, 2021). Complementing this line of inquiry, our objective is to understand the social consequences of smaller-scale traditional African religious belief systems. Our focus on the social consequences of religious beliefs dovetails with studies which make progress on understanding the institutional consequences of religion (Glaeser, Ponzetto and Shapiro, 2005, Chaney, 2013, Belloc, Drago and Galbiati, 2016, Cantoni, Dittmar and Yuchtman, 2018, Bazzi et al., 2020, Wang, 2021).

The following section provides a description of African traditional religions in general and the

specific setting in which the experiments are implemented. Section 3 describes the experimental design. Section 4 examines how those with traditional religious beliefs are treated. Section 5 examines how traditional beliefs affect social norms, i.e. perceptions of the behavior that is socially acceptable. Section 6 explores the perceptions and stereotypes of those that hold traditional beliefs. Section 7 discusses the broader implications of the experimental findings, including their generality and external validity. Section 8 concludes.

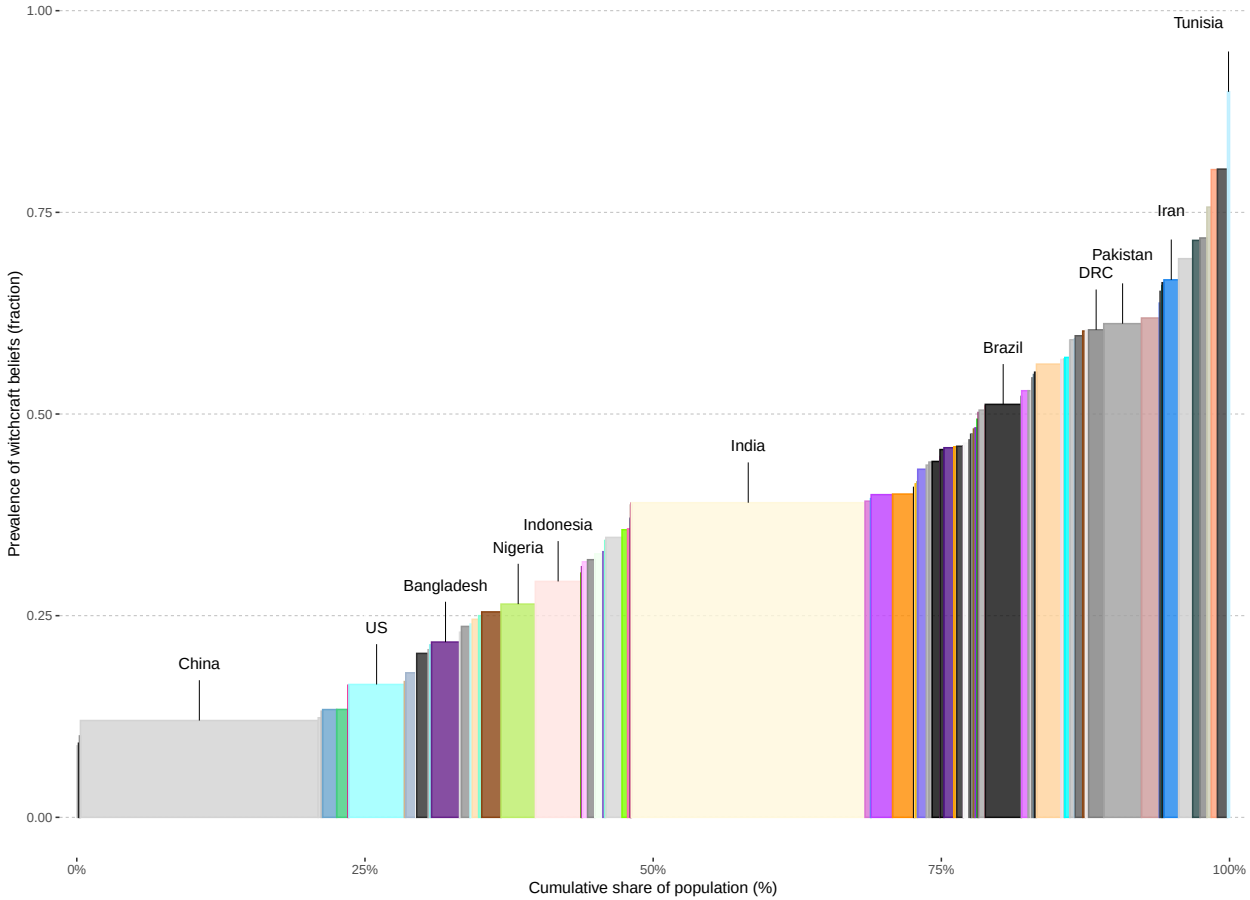
2. Traditional Religious Beliefs in Africa and the DRC

For scholars of African traditional religions, there is no clear distinction between African traditional religions and the other religions of the world. All have a divine creator, divine power, an afterlife, spirits, and the use of spiritual power, religious symbols, and ceremonies. The most noteworthy difference is that the traditional religions typically believe that each group has its own creator. Since there are different groups, comprised of 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 true 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. In their view, if a group is worshipping another God and tapping into spiritual power, then the only explanation for this is that the group was worshipping and obtaining power from the devil. This is the primary reason that African traditional religions (and many other traditional religions around the world) are referred to using terms like 'witchcraft,' 'black magic,' and 'sorcery' (Paton, 2009, Pietz, 2022).

These religions are widespread. We compile statistics on the share of witchcraft believers for countries for which we could find data. The data represent approximately 88.4% of the world's population. Among the sample for which data are available, 43% of respondents hold 'witchcraft' beliefs.[9] If we focus on non-OECD countries for which we can find data, we find that 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.

[9] 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.

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 share of witchcraft believers 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 et al., 2007), India (Salazar, 2021), Australia (Pepper and Powell, 2018), Canada (Ipsos, 2021), Japan (Kavanagh and Jong, 2019), and Vietnam (Long and Van, 2020).

These figures may be new or surprising to the reader. This is because traditional beliefs often remain 'invisible' to Western scholars of religion. Common surveys (e.g., WVS, DHS, Censuses, the Barometers, etc.), unlike those that we use here, only capture a person's 'primary' religion, 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 (no matter how weakly). It is only when you ask about traditional religion that you measure the actual prevalence

and importance of traditional religion.

Traditional religions in the DRC share many of the features of other African traditional religions as well as other global Indigenous religions. The belief system includes belief in supernatural forces and ancestral spirits, as well as a belief in a creator, who unlike, Christianity or Islam, is assumed to only be the creator for a particular group and not for all populations. There are individuals who can harness supernatural forces in various ways. The Western terms used for these individuals are typically 'witchdoctors,' 'sorcerers,' 'diviners,' etc. Ancestral or spiritual powers can be accessed by consulting individuals who are able to embody power in objects like amulets or fetishes. Unlike Christianity or Islam, there is no heaven and hell and there is less distinction between the natural and supernatural worlds. Instead they are perceived as being integrated and, in many ways, one and of the same. Ancestral spirits, including the supreme creator, are moralizing in the sense that they desire for individuals to have a happy and fulfilling life (Pobee and Mends, 1977, Mekoa, 2019, Aderibigbe and Falola, 2022).

The common English term for these traditional religious beliefs is 'witchcraft' ('sorcellerie' in French). This is more a reflection of the views of Christianity than of traditional religions. Within the Christian framework, God created all humans (not just Europeans) and so if another religion is obtaining spiritual benefits from another source – e.g., for healing – then this must be from the devil. Hence the term 'witchcraft.' This is the term used by Churches today despite it not being indigenous term (Paton, 2009, Chitakure, 2017). In our surveys and experiments, the relevant term that we use is a participant's belief in '*bokoko*,' which is the Lingala word that refers to a set of traditional religious and spiritual beliefs.

In our region of study, 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.

The persistence of traditional religions in our sample is in line with a similar pattern across the continent. This can be 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. One exception is Ethiopia, which has a particularly long history of Christianity. In many countries, the proportion of individuals that believes in witchcraft is above 50%, and a number of 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.

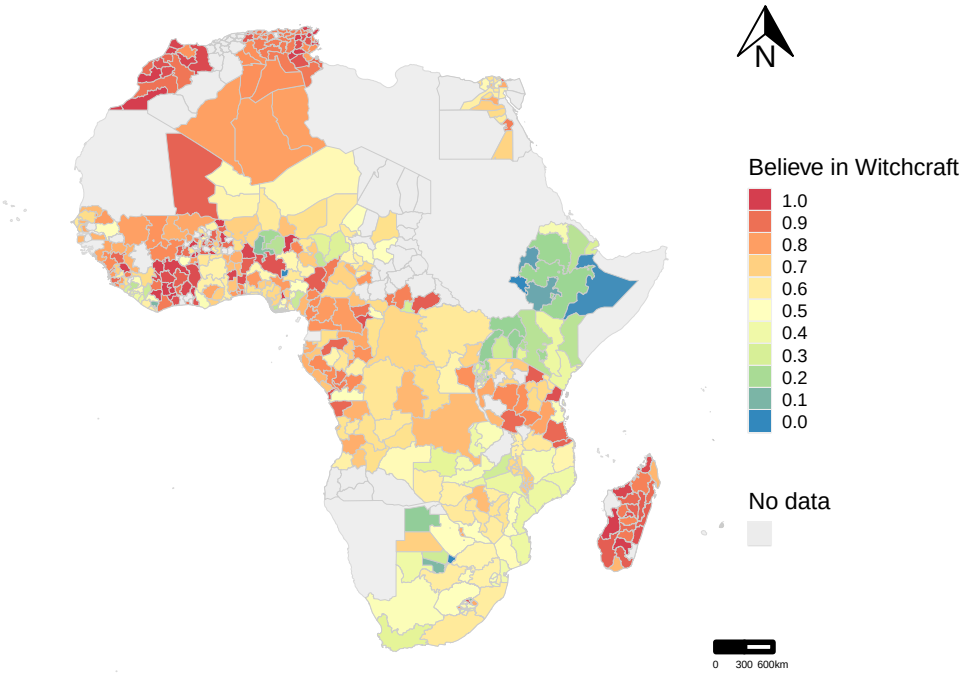
In our sample, not only do most people hold traditional religious beliefs, they also correctly understand that most other individuals hold traditional beliefs. We ask individuals to report the prevalence of traditional religious beliefs in the village in which they live. The responses are summarized in Figure 3. In the urban sample, the most common response was 'most people,' (close to 60%) while in the rural sample the most common response was 'most people' and 'everyone' (about 40% each). The next most common response is 'half.' Less than 4% report a value less than 'half' (either 'most don't' or 'no one'). Thus, nearly everyone in our sample correctly understands that the majority of the population continues to believe in traditional religion.

Given the persistence of traditional religious beliefs, the natural question is the reason behind this. To gain a deeper insight into this, we examine the primary reason reported for individuals to see a 'witch doctor.' The Gallup survey asks a subsample of 18,000 respondents this question. 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%). Interestingly, three of the top five reasons listed – to place a spell on someone, cure a spell placed by another, and to inflict pain on someone – are associated with revenge or retribution.

The Gallup data are consistent with our impression from focus groups and interviews of the role of witch doctors in the location of our study. The most common reasons to use magic are to harm others and to defend against the spells of others. It is also very common for individuals to use magic to make themselves healthier, wealthier, or more successful in life (e.g., having a successful business, finding a spouse, or having many children).

Among the participants in our study, 60% report having been harmed by witchcraft or other supernatural means in the past, and 26% report worrying about being harmed by witchcraft in the future. Given the possibility of witchcraft working as a supernatural threat that promotes

Figure 2: Witchcraft Beliefs in sub-Saharan Africa



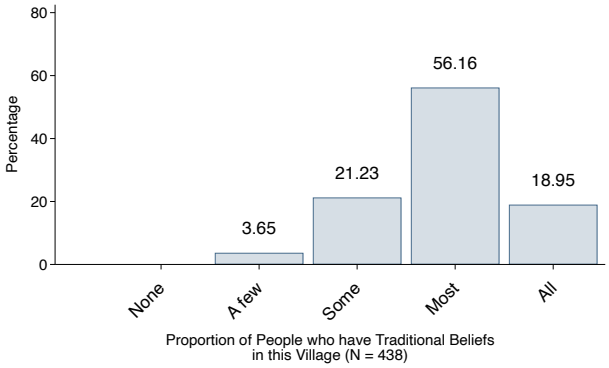
Notes: The figure presents the share of individuals who report believing in witchcraft. The data are from the Sub-Saharan Africa Religion Survey (2008 and 2009), the World's Muslims Survey (2011 and 2012) and Gallup (2009 and 2011, waves 4 and 6).

prosocial behavior, we asked participants if they thought that witchcraft is an effective means of harming others. The responses are reported in Figure 4. The most common response is that it is 'very effective,' followed by 'somewhat effective', and 79% of the sample believe that witchcraft is either 'somewhat' or 'very effective.'

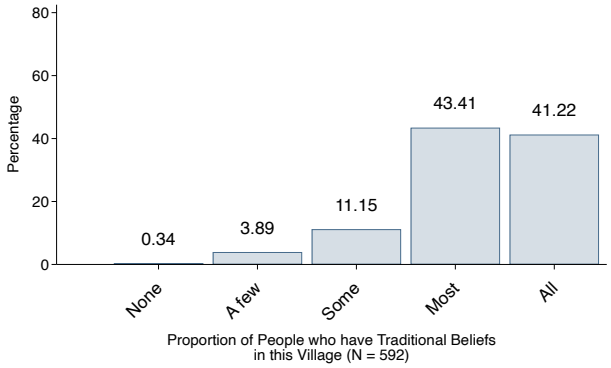
A key component of our experiment is that we communicate the traditional beliefs held by players to their partners. Thus, our estimated effects capture the causal effect of traditional beliefs *when they are known*. Given this, an important question is whether this is the empirically relevant statistic. In other words, are traditional religious beliefs 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. These are also often communicated by a person's appearance or dress. For example, if a person were wearing an amulet, jewelry, or similar item made from leopard teeth, or accessories made from leopard skin, then this would communicate their beliefs.

Figure 3: Perceived Prevalence of Traditional Religious Beliefs

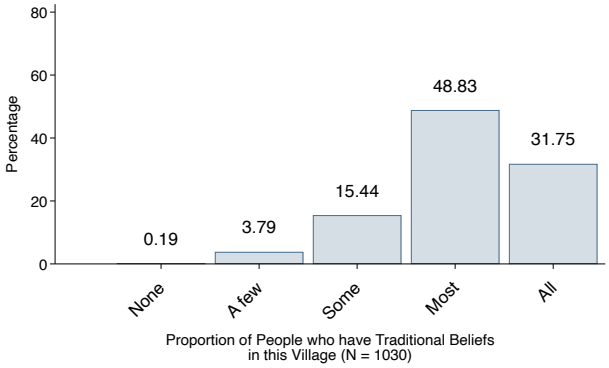
(a) Urban Sample



(b) Rural Sample



(c) Both Samples



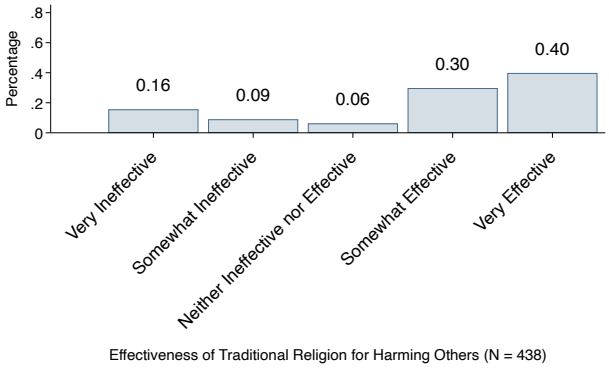
Notes: The histograms show the distribution of responses to the question: "How many people in [this city / this village] believe in witchcraft?" The response options are: 'none', 'some', 'most', and 'all'. Panel 3a shows the distribution for the urban sample, panel 3b for the rural sample, and panel 3c for both samples pooled together.

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. Thus, while there is some variation, it is clear that in most cases, there is some knowledge about whether others hold traditional beliefs.[10] 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.

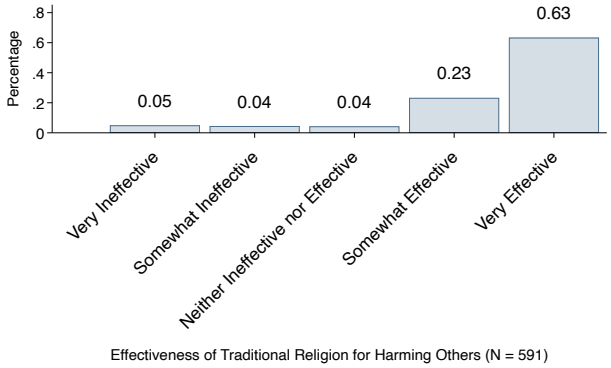
[10] A potential source of the variation in responses might be due to the interpretation of who 'others' refers to when asking about the beliefs of 'others'. One would tend to have more knowledge of the beliefs of friends, neighbors, or acquaintances than of strangers.

Figure 4: Effectiveness of Traditional Religion for Harming Others

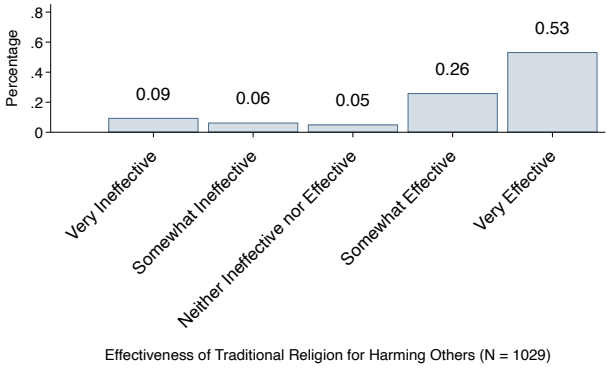
(a) Urban Sample



(b) Rural Sample



(c) Both Samples



Notes: The histograms show the distribution of responses to the question: "In your opinion, how effective is witchcraft for harming others?" The original answers are: 'very effective', 'somewhat effective', 'neither effective nor ineffective', 'somewhat ineffective', and 'very ineffective'. Panel 4a shows the distribution for the urban sample, panel 4b for the rural sample, and panel 4c for both samples pooled together.

3. Data and Experimental Design

We collect data from two 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").[11]

3.1. Urban Sample

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. See Appendix Figure A1, which shows satellite imagery of the city and the enumeration areas.

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

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.

For logistical reasons related to the matching of participants in the games, we did not include individuals in the study who had characteristics that were uncommon. 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 the 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.[12] Columns 1 to 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. 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.

3.2. Rural Sample

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.

[12] Of the 733 people who were randomly chosen for our screening survey, 520 eventually completed the experiments. Of the 213 that do 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.

Respondents received CF 2,000 for completion of the surveys in addition to the amounts received in the lab experiments. Columns 4 to 6 in Appendix Table A2 present the descriptive statistics for the main variables for the sample of rural respondents. Maps of the sampled areas are reported in Appendix Figures A2 and A3.[13]

3.3. Experimental Design

As part of the initial survey described above we asked individuals how strongly held their traditional religious beliefs are. The survey question is "How strongly held are your beliefs in supernatural powers, such as witchcraft?" The response options are: very weak, weak, neither believe nor disbelieve, strong, and very strong. In pre-testing, individuals rarely chose 'very weak' or 'weak' and so for the experiment, we aggregated the categories 'very weak' and 'weak.' Thus, in the end, each individual's 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.

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, sex, 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 player would have the same information about them. For the other player's characteristics, their age group is either young or old; their sex 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

[13] For a summary of implementation differences between the urban and rural samples, refer to Appendix Table A1. The key differences between the urban and rural samples were year of visit and 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.

beliefs is weak or very weak, neither believe nor disbelieve, strong, or very strong; and whether they grew up a rural area or not.

In Appendix Table A3 we present estimates of the relationship between respondent characteristics and strength of their traditional religious belief. In both samples, completion of secondary school is negatively correlated with traditional beliefs. In both samples, there is also a positive and significant relationship between strength of belief in the Christian God and strength of traditional beliefs. Those who believe more strongly in traditional beliefs also tend to believe more strongly in Christianity. While this may appear surprising, it is important to note that churches in the region, particularly evangelical and born again churches, often integrate traditional religious beliefs into their teachings. Thus, a belief in the supernatural is not at odds with a belief in God in this setting. 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 traditional religious beliefs of the other player in the activities. 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 other characteristics of the other player are also randomly assigned, although we do not stratify on those characteristics.[14]

4. Behavior Towards those with Strong Traditional Religious Beliefs

Our first analysis examines the extent to which the behavior of participants changes when paired with a player that has strong traditional beliefs relative to being paired with a player that 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. We now turn to a detailed description of each of the three games.

[14] 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 player in the games – e.g. different combinations of player characteristics that one could potentially be matched with – while also avoiding deception.

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. The pieces of information are 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 the participant that is eventually collected by the enumerator after the conclusion of all rounds of the games. For an example of the envelopes used in the task, see Appendix Figure A4.

The second game is a version of a standard choose-your-dictator (CYD) game. 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 they are the second player. The participant is presented with two individuals (labelled person A and person B), one of whom must be chosen to be the dictator. The participant is given information about person A and about person B. The participant knows that person A and person B also have the same information about them when they make their allocation decision. 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, which is also often called a money-burning 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 provides an illustrated version of the options (see Appendix Figure A5 for an example). The decision is made in private, using an umbrella as a shield. The marked sheet is put in an envelope, sealed, and placed in a bag collected by the enumerator.

4.1. Estimating Equations

We estimate the following equation:

$$\begin{aligned} y_{ij} \quad = \quad & \alpha_{a(i)} + \alpha_{a(j)} + \alpha_{g(i)} + \alpha_{g(j)} + \alpha_{e(i)} + \alpha_{e(j)} + \alpha_{v(i)} + \alpha_{v(j)} + \alpha_{b(i)} + \alpha_{b(j)} \\ & + \alpha_{c(ij)} + \beta_1 \textit{ Traditional Beliefs}_i + \beta_2 \textit{ Traditional Beliefs}_j + \varepsilon_{ij}. \end{aligned} \tag{1}$$

The unit of observation is a participant i who plays against another player j. We estimate equation (1) separately for each action of a game. Thus, y_{ij} denotes the action in a game by individual i when playing against individual j. The equation includes fixed effects for participant i's age group $\alpha_{a(i)}$, gender $\alpha_{g(i)}$, education $\alpha_{e(i)}$, whether the individual grew up in a rural area (i.e., village rather than a city) $\alpha_{v(i)}$, strength of belief in the Christian God $\alpha_{b(i)}$, as well as fixed effects for these same characteristics of player j: $\alpha_{a(j)}$, $\alpha_{g(j)}$, $\alpha_{e(j)}$, $\alpha_{v(j)}$, and $\alpha_{b(j)}$. In addition, we also control for a fixed effect that equals one if player i and player j belong to the same ethnicity, $\alpha_{c(ij)}$. 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 player i characteristics 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:

$$y_{ij} = \alpha_i + \alpha_{a(j)} + \alpha_{g(j)} + \alpha_{e(j)} + \alpha_{v(j)} + \alpha_{b(j)} + \alpha_{c(ij)} + \beta \textit{ Traditional Beliefs}_j + \varepsilon_{ij}, \tag{2}$$

where all definitions are as before and α_i denotes player i fixed effects. Because these fixed effects absorb *Traditional Beliefs*$_i$, this variable, as well as all other player i characteristics, does 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 a 'strong' or 'very strong' traditional beliefs. The indicator equals one if the participant has a strong or very strong belief.[15] We report estimates separately for the rural sample, the urban sample, and pooling both sample (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).[16] All pre-specified analyses and robustness tests are reported, either in the body of the paper or the appendix.

4.2. Estimates

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). The first four columns present the results for the urban sample; the second four columns present the results for the rural sample; and the final four columns pool the urban and rural samples and include a sample fixed effect. 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.

[15] In the appendix, we also present the results with a set of indicator variables for each category of strength of traditional beliefs. This was pre-specified in our pre-analysis plan and reported in Appendix Section B.2 to conserve space.

[16] We have multiple pre-analysis plans because we have one for each round of data collection: (1) games in city, (2) norms in city, (3) games and norms in villages. The first corresponds to the games data collection in the city. The second corresponds to the norms data collection in the city. For the third round of data collection where we collected data in the villages, we submitted a modification to the second pre-analysis plan.

For the urban sample, we find that a one unit increase in a player 2's strength of traditional religious beliefs is associated with a CF 12 decline in the amount allocated to that player; this is the case with and without player 1 fixed effects (columns 1 and 2). Being paired with a player 2 with a strong or very strong traditional belief is associated with CF 30 reduction in the amount they receive (columns 3 and 4). For the rural sample, we find a negative but insignificant coefficient. Being paired with a player 2 with a strong or very strong traditional belief leads to a reduction in approximately CF 11 allocated to that player (columns 7 and 8). Columns 9–12 present the analysis where we pool both samples and include a sample fixed effect. We find that player 2s with stronger traditional beliefs are allocated fewer CF.

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 are able to 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 2. In this game, we call the player who is choosing which of two players to play with player 1 and each of the players who might be chosen player 2. After a player 2 is chosen as a dictator, the dictator chooses the amount of 1,000 CF to allocate to player 1. The dependent variable is an indicator variable that equals one if player 2 is chosen by the participant. We find very strong evidence that player 2's traditional beliefs negatively affect the probability that they are chosen in the CYD. When beliefs are measured using a 1–4 integer scale, we find that a one-point increase in traditional beliefs is associated with a decrease in the probability of being chosen by 14 percentage points for the urban and rural samples (columns 1 and 2 for the urban sample; columns 5 and 6 for the rural sample). Thus, a full three point increase is associated with a decrease of about 45 percentage points. If a player 2 has strong or very strong traditional beliefs, the probability of being chosen is reduced by 37 percentage points in the urban sample and 34 percentage points in the rural sample. Not only are the estimated effects highly significant, but they are also extremely large in magnitude. Each of the estimates reported above should be compared to the mean probability of being picked which, by design, is 50%. Finally, the pooled results (columns 9 to 12) are consistent with the results in the individual samples.

Table 1: 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	1040	1040	1040	1040	1200	1200	1200	1200	2240	2240	2240	2240
Respondents	520	520	520	520	600	600	600	600	1120	1120	1120	1120
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: Robust standard errors in []. Standard errors clustered at the individual level in (). 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. *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. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

To the extent that behavior in the game reflects behavior in real life, 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 3. 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 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.

We find that consistent with the estimates from the DG and CYD games, player 1 behaves less prosocially when randomly paired with a player 2 that has stronger traditional religious beliefs. Each of our measures of stronger traditional beliefs is negatively associated with prosocial behavior in the JOD.

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 (see Appendix Tables A4-A6). The result observed in Table 3 – that individuals are less prosocial to those who have strong traditional beliefs – is primarily driven by being less willing to increase the endowment of the other player if they have strong traditional beliefs. Individuals are seven percentage points less likely to increase the endowment of a player with strong or very strong traditional beliefs in the urban sample and 4 percentage points less likely to increase their endowment in the rural sample (see Appendix Table A4). Players are only marginally more likely to reduce the endowment of the other player if the other player has strong traditional beliefs; they are 4 percentage points more likely to reduce the endowment of the other player if the other player has strong or very strong traditional beliefs in both samples (see Appendix Table A5). The other player's traditional beliefs have no effect on choosing to do nothing in the JOD (see Appendix Table A6).

Robustness and Sensitivity Checks

In Appendix Figures B1–B3, 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

Table 2: 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	2080	2080	2080	2080	2400	2400	2400	2400	4480	4480	4480	4480
Respondents	520	520	520	520	600	600	600	600	1120	1120	1120	1120
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: Robust standard errors in []. Standard errors clustered at the individual level in (). 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: 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. *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. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Table 3: 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	1022	1022	1022	1022	1190	1190	1190	1190	2212	2212	2212	2212
Respondents	513	513	513	513	598	598	598	598	1111	1111	1111	1111
Mean Dep. Var.	0.164	0.164	0.164	0.164	0.0807	0.0807	0.0807	0.0807	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: Robust standard errors in []. Standard errors clustered at the individual level in (). 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. *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. *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. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

controls; player 1 fixed effects; robust standard errors, standard errors clustered at the individual level, two-way 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). We also present estimates checking the robustness of our findings to measuring traditional beliefs using an indicator variable for each category (Appendix Tables B1–B3), the CYD results with a logit specification (Appendix Table B4), and the JOD estimates looking separately at each action: increase, decrease or do nothing (Appendix Tables A4–A6).

We also address the possibility that some individuals might not be open about their own traditional beliefs and misreport them. These individuals might expect others to also do this, which may 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: "How honest do you think the respondent was when answering questions about witchcraft?" The enumerators could report that, in their view, the respondent was either: 'very dishonest', 'somewhat dishonest', 'neither dishonest nor honest', 'somewhat honest' or 'very honest'. We summarize the distribution of answers in Appendix Figure A6. We find that in general people tend to be honest about their traditional beliefs. Only 4.6% of respondents are viewed as being dishonest (either somewhat dishonest or very dishonest). Further, as reported in Appendix Tables A7–A9, the estimates are very similar if these participants are omitted from the analysis. Thus, our estimates are not affected by the possibility that those who are dishonest perceive the information about player as not being reported honestly, which affects their own behavior and biasing our estimates.

Magnitude and Economic Significance

Beyond being statistically significant, we also find that the magnitude of these effects is economically significant. According to our estimates, if a player 2 from the urban sample 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 Towards Those Holding Traditional Religious Beliefs

We now turn to our second set of outcomes which measure participants' perceptions of the social acceptability of different actions in different games. As mentioned, this is motivated by two facts. First, there is now ample evidence that norms are important determinants of behavior in experiments and everyday life (e.g., 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, 2020). Second, we expect these measures to be less prone to experimenter demand effects. Participants do not report their beliefs about what they think is socially acceptable, but their expectation of what others will report about the social acceptability of different actions. Additionally, their responses are incentivized. If their answers are accurate, participants receive sizable 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 respondents 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 are played. Participants were then asked to imagine that there is a hypothetical decision maker who is completing the experimental task. This is a hypothetical player 1 in the experiments. The participant is given information on the identity of the person that the decision maker in the task has been paired with. This is 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 received 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:

$$\begin{aligned} \textit{Appropriate}_{ij}^{k} &= \alpha_{a(i)}^{k} + \alpha_{a(j)}^{k} + \alpha_{g(i)}^{k} + \alpha_{g(j)}^{k} + \alpha_{e(i)}^{k} + \alpha_{e(j)}^{k} + \alpha_{v(i)}^{k} + \alpha_{v(j)}^{k} + \alpha_{b(i)}^{k} + \alpha_{b(j)}^{k} \\ &\quad + \alpha_{c(ij)}^{k} + \beta_{1}^{k} \textit{Traditional Beliefs}_{i} + \beta_{2}^{k} \textit{Traditional Beliefs}_{j} + \varepsilon_{ij}^{k}, \end{aligned} \tag{3}$$

where k denotes an action in a game, i denotes the participant, and j denotes player 2. $\textit{Appropriate}_{ij}^{k}$ is the reported 1-4 integer measure of appropriateness (according to participant i) of decision k made when paired with player j. $\textit{TraditionalBeliefs}_{i}$ and $\textit{TraditionalBeliefs}_{j}$ 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 also estimate the fixed effects version of the same equation:

$$\begin{aligned} \textit{Appropriate}_{ij}^{k} &= \alpha_{i} + \alpha_{a(j)} + \alpha_{g(j)} + \alpha_{e(j)} + \alpha_{v(j)} + \alpha_{b(j)} + \alpha_{c(ij)} \\ &\quad + \beta^{k} \textit{ Traditional Beliefs}_{j} + \epsilon_{ij}, \end{aligned} \tag{4}$$

where all definitions are as in equation (3) and α_{i} denote participant i fixed effects.

We first consider the dictator game. The coefficients of interest are summarized in Figure 5 and the full estimates are reported in Appendix Table B5. 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). In the top, middle, and bottom graphs, we report the results for the urban, rural, and both samples, respectively. Each figure shows results for the specification with player 1 controls – equation (1) – and with player 1 fixed effects – equation (2).

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 other player. Thus, the estimated coefficient is zero.

Estimates for the CYD game are reported in Table 4. 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. This finding is robust to quantifying stronger traditional beliefs using each of our measures of traditional beliefs. The table also reports estimated coefficients for player 1's traditional beliefs – i.e., β_1 in equation (1). Consistent with all of our previous findings, the beliefs of player 1 are uncorrelated with the outcomes of interest.

Estimates of the JOD game are summarized in Figure 6, with the full estimates reported in Appendix Tables B6–B8. 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.

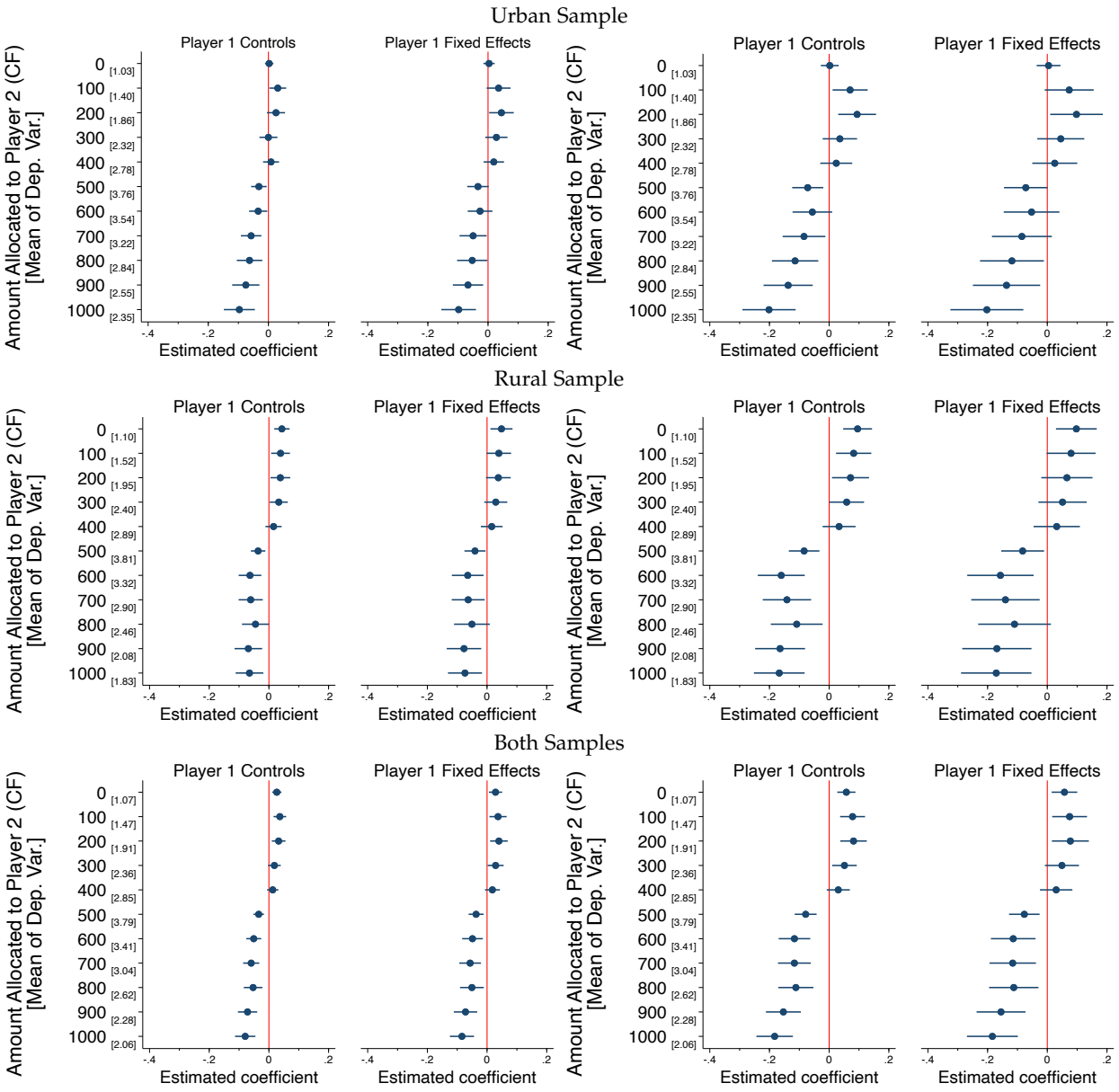
Robustness and Sensitivity Checks

In the appendix, we present the following 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 B4–B9). We also present estimates that show the robustness of our findings to measuring traditional beliefs using indicator variables for each category of the measure (Appendix Tables B9–B13).

6. 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 antisocial behavior towards those with strong traditional beliefs is perceived as being socially acceptable. We now consider the natural question of whether individuals with strong traditional beliefs are perceived differently by others. We do this by using the 'conjunction

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

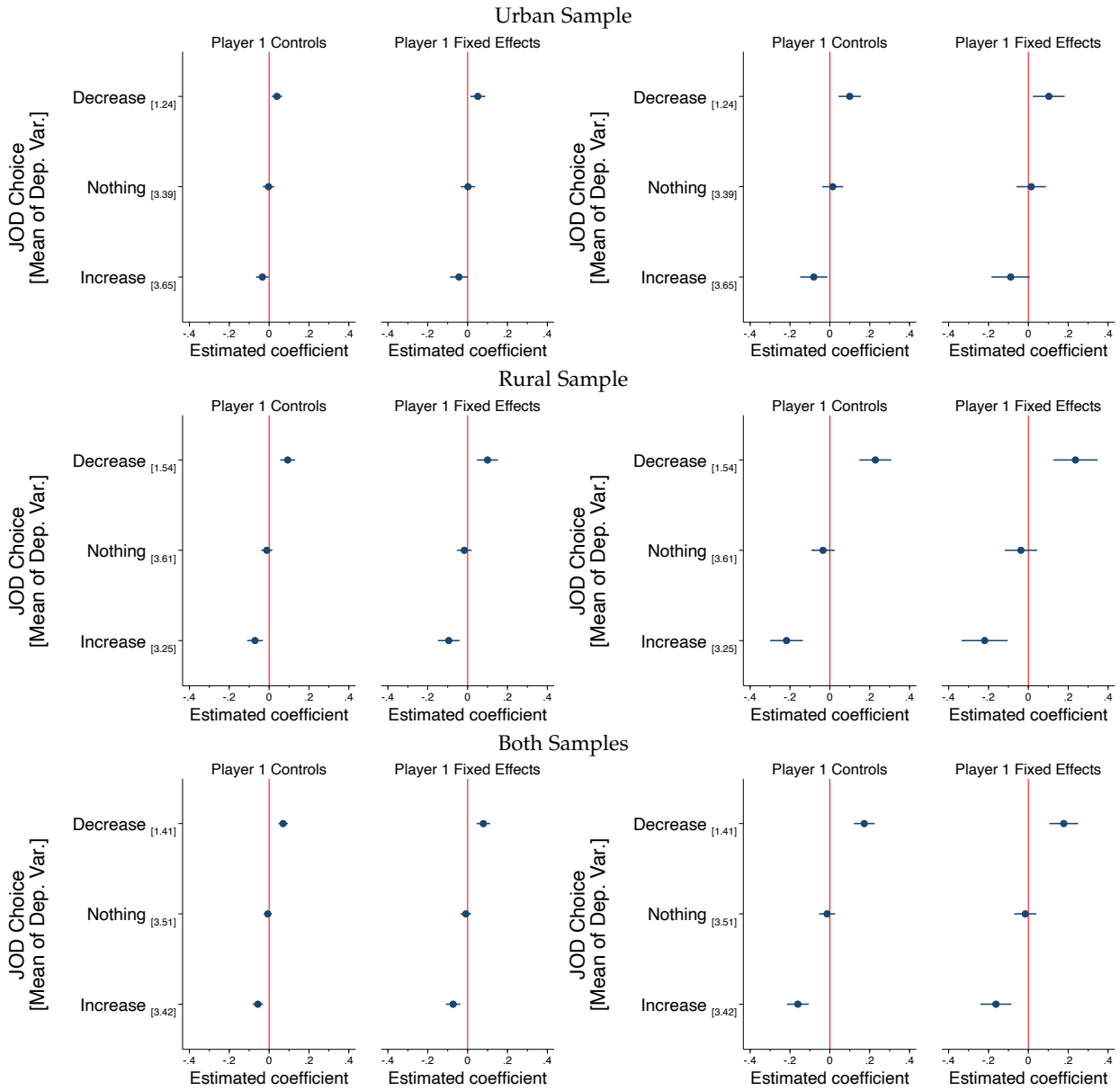
Notes: The eleven choices in the DG correspond to the amounts between 0 and 1,000 CF that can be sent to the other player. 'Appropriate' is a 1 to 4 variable, where (1) is very socially inappropriate, (2) is somewhat socially inappropriate, (3) is somewhat socially appropriate, and (4) is very socially appropriate. *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.

Table 4: Effect of Player 2's Traditional Beliefs on How Appropriate to Choose Player in CYD

	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	-0.272	-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	1796	1796	1796	1796	2384	2384	2384	2384	4180	4180	4180	4180
Respondents	449	449	449	449	596	596	596	596	1045	1045	1045	1045
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: Robust standard errors in []. Standard errors clustered at the individual level in (). 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: 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. *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. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

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 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. *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.

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 who 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 the characteristics of Linda.

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 the negative characteristics.

For this activity, we recruited a random sample of 523 individuals from the city.[17] Participants listen to scenarios where the character exhibits the positive or negative traits described above.[18] While the complete list of the conjunction fallacy scenarios is provided in Appendix A.3, 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 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

[17] Because of cost over-runs related to the COVID-19 pandemic, combined with a limited budget, we were not unable to also have a sample from the rural villages for this activity.

[18] We randomize scenario order so that within a pair of traits, such as honesty and dishonesty, half of respondents hear the scenario with the positive trait first.

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 they are associated with Christianity.

The findings are reported in Table 5. 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 is associated with being Christian.

For completeness, we analyze these same patterns more formally by estimating the following equations:

$$\textit{Chosen}^k_{io} = \alpha^k_{a(i)} + \alpha^k_{g(i)} + \alpha^k_{e(i)} + \alpha^k_{v(i)} + \alpha^k_{b(i)} + \alpha^k_{t(i)} + \beta^k_1 \textit{ Traditional}_o + \beta^k_2 \textit{ Christian}_o + \varepsilon^k_{io} \quad (5)$$

$$\textit{Chosen}^k_{io} = \alpha^k_i + \psi^k_1 \textit{ Traditional}_o + \psi^k_2 \textit{ Christian}_o + \epsilon^k_{io}, \quad (6)$$

where the unit of observation is an option o chosen by participant i when asked about a scenario that describes a trait k. The dependent variable, denoted $\textit{Chosen}^k_{io}$, is an indicator variable

Table 5: 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

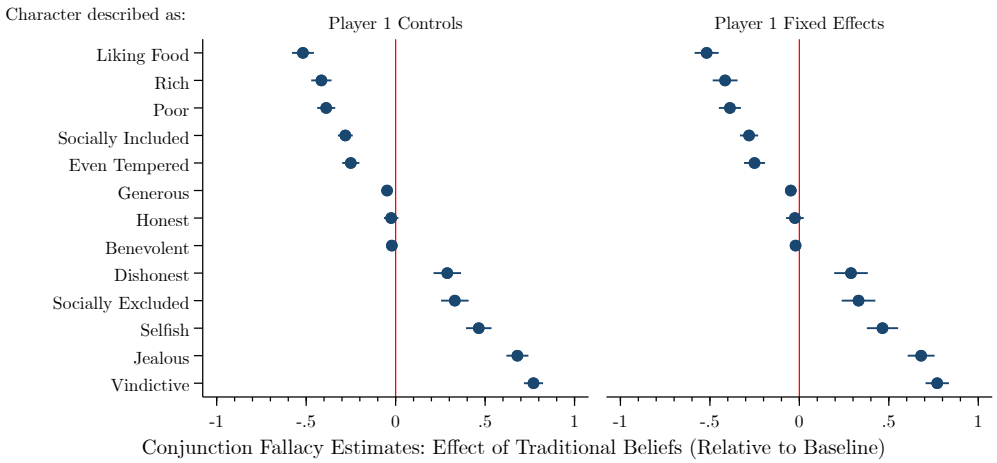
Notes: For each scenario, we report the percentage of the sample that did not make the conjunction fallacy (i.e. *Baseline Characteristic*), made the conjunction fallacy with traditional beliefs (*Baseline & Traditional*), and made the conjunction fallacy with Christian beliefs (*Baseline & Christian*).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

that equals one if option o is chosen by participant i when asked about scenario k. 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_1^k and ψ_1^k, which indicate the extent to which traditional religion was associated with trait k.[19]

The estimates are summarized in Figure 7, which plots β_1^k and ψ_1^k for each scenario/trait k. The figure on the left reports estimates for equation (5) and the right for equation (6). A clear pattern emerges. 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

[19] The fixed effects in equation (5) are for characteristics of participant i, $\alpha^k_{a(i)}$ (age group), $\alpha^k_{g(i)}$ (gender), $\alpha^k_{e(i)}$ (education), $\alpha^k_{v(i)}$ (from rural area), $\alpha^k_{b(i)}$ (strength of Christian beliefs), and $\alpha^k_{t(i)}$ (strength of traditional beliefs), are as defined in equation (1). α^k_i in 6 represent participant i fixed effects.

Figure 7: 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.

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.[20]

The results dovetail with the prior findings. We find that in behavioral games individuals treat others less prosocially. We then measured perceived norms of behavior and found that individuals also believe it more socially acceptable to treat those who have stronger traditional beliefs less prosocially. These findings, which drill down more deeply into the actual association held by individuals, show that individuals tend to associate individuals with traditional beliefs with more negative traits.

7. Generality and Implications of Experimental Results

Our findings generate a very somber picture of social relations in our setting. Like most of the rest of sub-Saharan Africa, belief in some denomination of Christianity is now essentially universal. From the anthropological and historical literatures, we know that the adoption of Christianity

[20] These results are because the omitted category is for the option where no conjunction fallacy occurs. Estimates with the omitted option as a conjunction fallacy occurs and the implied association is with Christianity are similar to those reported here, except that the estimates for liking food, being rich, and being poor, are very close to zero. This is because for these traits 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 A7.

coincided with the demonization and stigmatization of African traditional religions, a fact that is evident from the terminology used to describe the religion: 'witchcraft,' 'sorcery,' 'black magic,' etc.

Direct evidence of the changing perceptions of traditional religion can be gleaned from data on traditional folklore from Michalopoulos and Xue (2021). These oral histories are passed down across generations, tend to remain unchanged over time and, thus, provide a glimpse into the values and beliefs of the past.[21] We identify all folktales that are from African societies and have motifs that contain the word "magic" or any of the related words identified using ConceptNet. This returns 31 unique folktales that are common to numerous ethnic groups across the continent. Among the 31, in no folktale is the magic or the user of magic depicted in a stigmatized manner. In 18, the use of magic results in a positive outcome; in two tales, magic has neutral effects, meaning not obviously positive or negative; and in 11 magic results in negative outcomes.

The pattern observed in the historical folklore data stands in contrast to the finding from our contemporary study, as well as perceptions gleaned from surveys and focus groups. For example, at the end of our activities, we asked participants: "Why do people use witchcraft?" The tone of the contemporary responses were very different from that of the historical folktales. A full 50% of respondents reported that witchcraft was used for negative purposes (e.g., eating human flesh, hurting others, etc.); 13% listed positive purposes (e.g., gaining wealth, increasing fertility, etc); 22% listed both negative and positive uses of witchcraft; and 15% listed reasons that weren't clearly positive or negative (e.g., it is their profession, they were born this way).

Evidence on the traditional neutrality of indigenous religion can also be gleaned from the Ethnographic Survey of Africa (Forde, 2017), a compilation of ethnographic accounts of ethnic groups across the African contact. 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. The other cases are typically ones where the ethnographies do not specify either way. Thus, consistent with descriptions of traditional religion, the ethnographic accounts indicate a balance in the belief of whether traditional religion is used to harm or to help.

Our findings show that the changing perceptions of traditional religion has important effects

[21] A fact consistent with folktales reflecting deeply historical content is that, among all societies in Africa, there are no folktales that mention 'Christian,' 'Christianity,' 'Catholic,' or any related words. For most of the continent, Christianity was introduced in the late 19th or early 20th Centuries.

on how individuals perceive each other, which behaviors are viewed as acceptable, and which behaviors actually emerge. Individuals who still hold on to traditional religious beliefs, which are the majority of the population, are perceived more negatively and treated less prosocially.

Given the prevalence of this antisocial behavior, a crucial question is how the situation can be improved. A natural response would be that the solution is simple. Populations should discontinue believing in African traditional religions. However, it is well-known that given the slow-moving incremental nature of cultural evolution, beliefs can persist for long periods of time, even if they are costly (in terms of material and social payoffs). In addition, there may be important benefits to these beliefs. For example, abandoning traditional religious beliefs would also require turning one's back on one's deceased ancestors. This could have a detrimental effect on mental wellbeing, as well as the functioning of informal institutions, which are typically built around the lineage and political power derived from ancestors. Given these potential benefits, as well as the fact that the origin of the anti-social behavior towards African traditional religions is Christianity, it is not at all clear that further weakening traditional religious beliefs is the answer.

7.1. Within Sample Generality

Given the adverse social consequences of traditional religious beliefs that we identify, an important question is under what circumstances are these negative effects 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.

Heterogeneity by Player 1 Characteristics

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, location of birth, strength of Christian beliefs, strength of traditional religious belief, education, and income. Using measures of each of these characteristics, for each population, we divide the sample into two groups and estimate the effects of player 2's belief for each subsamples. For some groups, 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. 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 the income and wealth ranking measures), we choose the partition that generates the most equal groups.

As a method of summarizing the patterns across all behavioral measures of player 1's prosocial behavior towards player 2, we estimate the average effects size (AES) across actions in the dictator game, choose your dictator game, and joy of destruction game. The estimates are reported in Figure 8. We report estimates for the urban sample, the rural sample, and the pooled sample that includes all observations. We also report the estimates by game, rather than the AES across games, in Appendix Figure A8.

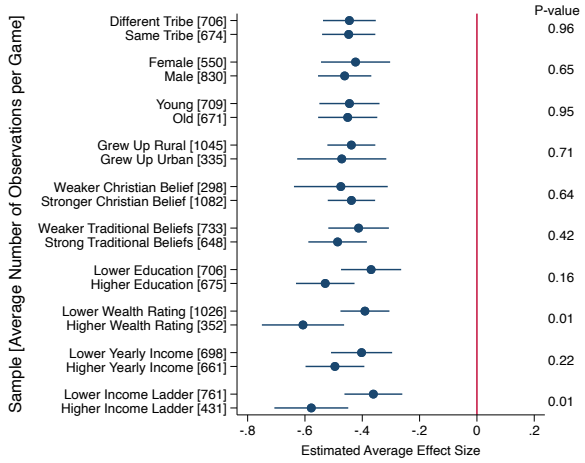
A number of findings emerge. First, for all subsamples we estimate a negative and highly significant effect of player 2's traditional religious beliefs on how prosocial player 1's behavior is. This is significant because it suggests that even educated and higher-income individuals, including those who 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 would 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.

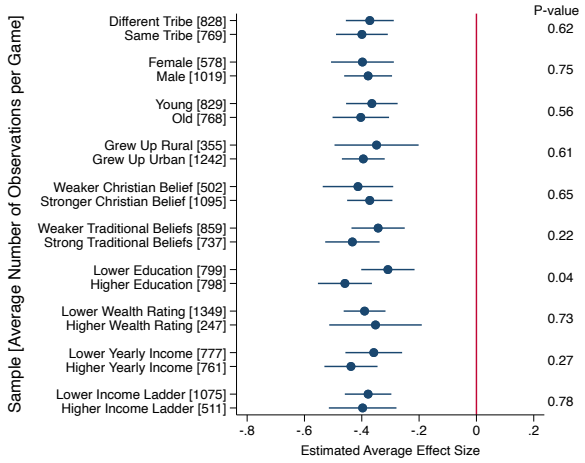
Another important result is that we find no evidence that if player 1 has strong traditional beliefs, they tend to be relatively less antisocial towards a player 2 who holds traditional beliefs. Instead, player 1's who hold strong traditional beliefs also treat a player 2 with strong traditional beliefs 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 et al., 2011). As pre-specified, we explore this

Figure 8: Heterogeneity of Estimates by Player 1 Characteristics: Urban, Rural, and Both Samples

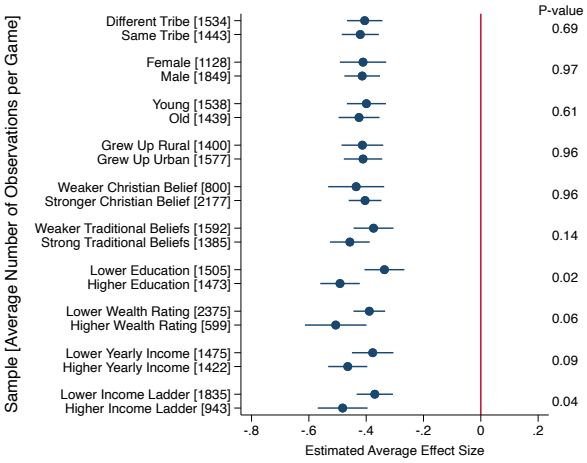
(a) Urban Sample



(b) Rural Sample



(c) Both Samples



Notes: The figures are coefficient plots for the urban sample, rural sample, and both samples. The estimated specification is equation (1). We report the coefficient and 95% confidence intervals for the average effect size of Player 2's Traditional Beliefs. 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 subsample. The left y-axis labels specify the partitioned subsamples and the number of observations in each group. The right y-axis labels report the p-value for the null hypothesis that the estimates of the two samples are equal.

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 A10–A12. We also report estimates using the continuous measures of religious beliefs. Consistent with the conclusion from Figure 8, we find no evidence of that a player 1 who believes in traditional religion treats player 2's with the same beliefs better.

Heterogeneity by Christian Exposure

We also examine heterogeneity depending on the strength of a person's self-reported Christian beliefs. It is possible that stronger Christian beliefs might strengthen the effects we estimate if Christianity is the source of these antisocial perceptions, norms, and actions. However, it is also

possible that they might weaken the effects of Christian teachings generate prosocial behavior to all individuals regardless of their beliefs. For example, if it generated values that that were more universal and less group-based.

When we look at heterogeneity depending on individual's self-reported beliefs in Figure 8, we find that effects do not differ depending on the Christian beliefs of the participants. For both samples, 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. While our religion question is aimed at capturing both margins, it does so in a very coarse and imperfect way. Also, for an isolated village, it is difficult for an individual to choose an appropriate intensity that is relative to the broader sample rather than those in their village.

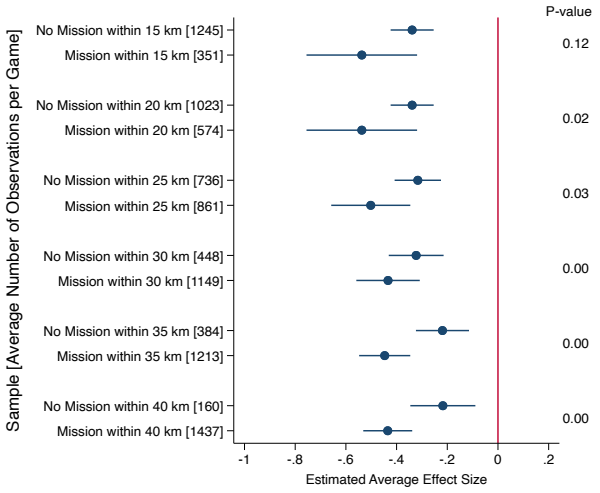
Prior to collecting the data, we anticipated this difficulty and pre-registered an exercise that we felt is the best strategy for looking at heterogeneous effects depending on a person's exposure to Christianity; namely, to estimate heterogeneous effects within our rural village sample by the historical exposure of the village to a foreign mission station. Although, by now, Christianity has 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 have a greater intensity and depth of beliefs in Christianity today.[22] We obtain this information from a detailed map of colonial era missions from Mantnieks (1951). (See Figure A11 for a map of the villages and for the Christian missions).

To examine the effects of Christian missions, we undertake a heterogeneity analysis in exactly the same manner as in Figure 8. Looking at the rural population, we divide the sample into two groups: those living in locations "close" to colonial mission stations and those living "far" from them. We estimate a version of equation 1, but with standard errors clustered at the village level to be conservative. The AES estimates for the effect of the other player's traditional beliefs for the two groups are reported in Figure 9. We report estimates for different definitions of close and far using distances ranging from 15 to 40 kilometers. As before, we also report the p-value for the

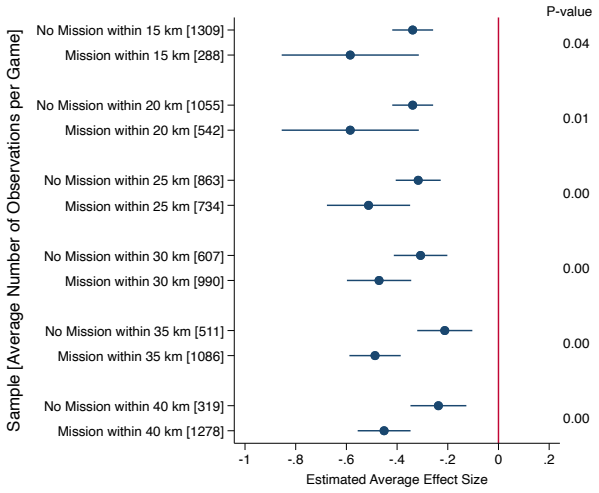
[22] Based on our knowledge of the setting, we felt that there would be no connection between the exposure of ancestral villages to missions and the intensity of a person's Christian beliefs today. Not because there isn't some historical cultural transmission along these lines, but that it is swamped by the exposure of individuals today to Christianity in the cities, which is much more pervasive and intensive compared to to the rural villages. Thus, as pre-specified, we do not undertake an analogous exercise using the origin villages of our urban sample.

Figure 9: Heterogeneity of Estimates by Player 1's Exposure to Christian Missionaries for the Rural Sample

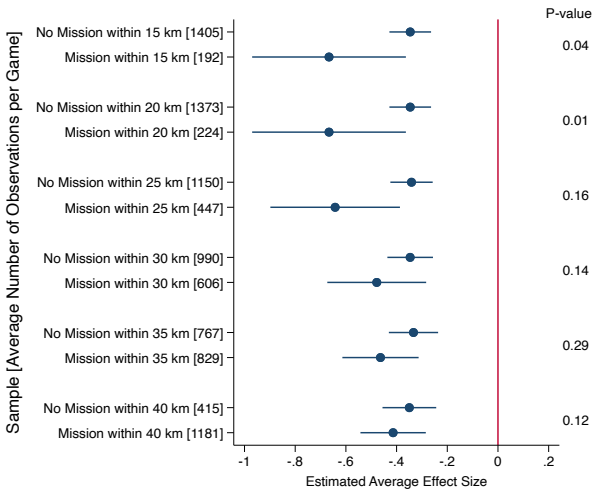
(a) Any Mission



(b) Catholic Mission



(c) Protestant Mission



Notes: The figures are coefficient plots using the rural sample. The estimated specification is equation (1) but with standard errors clustered at the village level. We report the coefficient and 95% confidence intervals for the average effect size of Player 2's Traditional Beliefs for two samples: participants who live in villages that were close to a colonial foreign mission station and participants who live in villages that were far from a colonial foreign mission station. We report the coefficient using different definitions of near and far: 15, 20, 25, 30, 35, and 40 kilometers. The left y-axis labels specify the distance cut-off used to create the two samples and the number of observations in each group. The right y-axis labels report the p-value for the null hypothesis that the estimates of the two samples are equal.

hypothesis that the estimated effects for the two groups are equal.

We find that the historical presence of Christian missions amplifies the antisocial effects directed towards traditional religion that we estimate. For both groups, the estimated effects are present (and highly significant) but they are particularly strong for villages that have a history of being close to a foreign mission station. The effects appear present for both types of missions but particularly strong for Catholic missions, which were the most common denomination in DRC during the colonial period.

To explore this form of heterogeneity further, and check the sensitivity of the effects to the

specification, also estimate a variant of our baseline specification – equation (1) – that allows the effect of player 2's traditional beliefs on player 1's behavior to vary depending on whether the historical exposure of player 1's village to Christianity. This analysis was pre-specified in our PAP. We report estimate using a near/far indicator variable (based on 20 kilometers) but also report estimates using more continuous measures: the inverse distance to the nearest mission station and the inverse log distance to the nearest mission station. As before, we measure each of these for Protestant missions, Catholic missions, and either denomination of mission. Standard errors are clustered at the village level. The estimates, which are reported in Table A13, show the same results: in locations closer to colonial foreign mission stations, the antisocial behavior that we document is significantly stronger.

Taken as a whole, our estimates suggest that while Christianity has spread so widely and deeply into the region (and the continent in general) that it's difficult to determine empirically whether this is the source of the effects we document, by focusing on the most remote regions in our sample and a historical determinant that provides strong differences in the intensity of exposure to Christianity, we are able to uncover variation that can speak to this question. The evidence from this indicates that Christianity, at least historical exposure to Christianity, is associated with an amplification of antisocial behavior towards those who hold traditional religious beliefs.

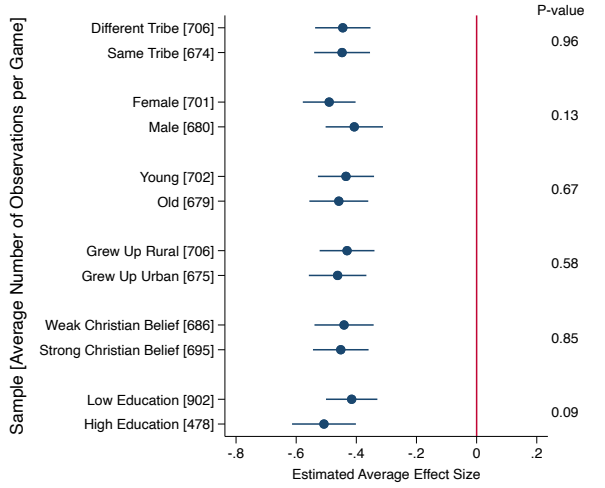
Heterogeneity by Player 2 Characteristics

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 player 1's less prosocial behavior towards traditional believers is attenuated if player 2 is wealthier, more educated, or they believe in Christianity. Again, this would imply that the process of economic development will tend to erode some of the anti-social effects we are finding. The heterogeneous AES effects are reported in Figure 10.[23] We again find that for every subgroup examined, we estimate a negative and statistically significant effect of player 2's traditional religious beliefs. We do observe some mild heterogeneity for one characteristic. When player 2 is more educated, the estimated effect is larger in magnitude. Thus, increased economic wellbeing as proxied by education, does not attenuate the effects but instead magnifies them.

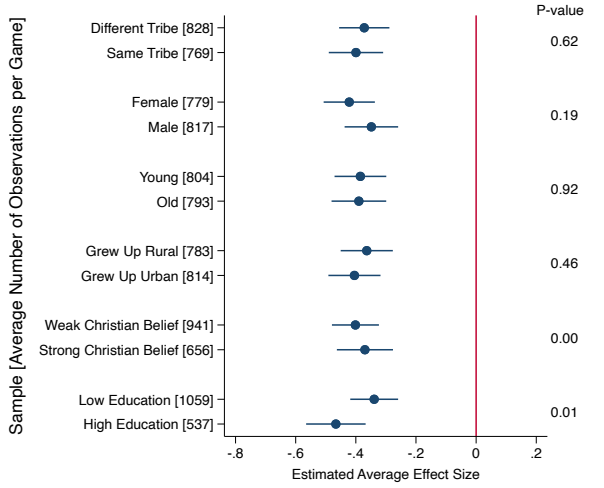
[23] The heterogeneity estimates for each game separately are reported in Appendix Figure A9.

Figure 10: Heterogeneity of Estimates by Player 2 Characteristics: Urban, Rural, and Both Samples

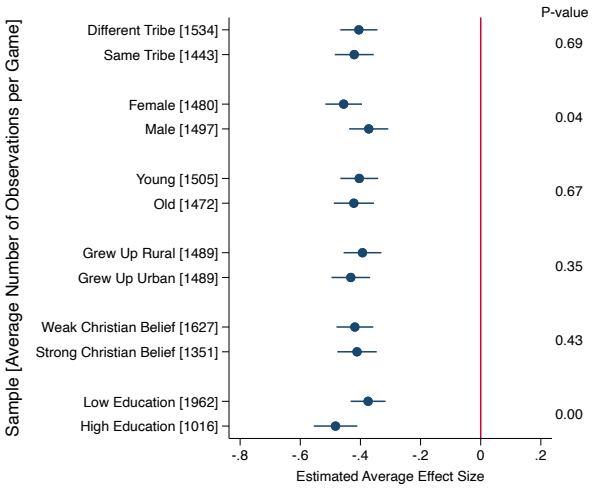
(a) Urban Sample



(b) Rural Sample



(c) Both Samples



Notes: The figures are average effect size coefficient plots for the urban sample, rural sample, and both samples.We estimates of equation (1) for two sub-samples determined by various characteristics of player 1. 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 average effect size coefficient and 95% confidence intervals for Player 2's Traditional Beliefs for both subsamples. The left y-axis labels specify the partitioned subsamples and the number of observations in each group. The right y-axis labels report the p-value for the null hypothesis that the estimates of the two samples are equal.

7.2. Generality Outside of the Experimental Sample

The heterogeneity analyses suggests that the effect of traditional religious beliefs on anti-social 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 our experimental findings reflect similar consequences in the real world, we would expect a person's

belief in traditional religion to then lead to lower levels of economic wellbeing. We check for these relationships using individual-level data from Gallup, which includes information on witchcraft beliefs and various measures of material wellbeing for up to 34 countries in sub-Saharan Africa. The results are reported in Panel A of Table 6. We find that a belief in witchcraft is associated with all five measures of economic prosperity that we consider: household income, per capita income, subjective measures of the standard of living, perceived comfort of one's standard of living, and one's perceived economic ranking. Thus, the evidence suggests that our experimental findings are potentially general.

To check for the same heterogeneity by economic development found in our experimental analysis, we then ask how the effect of one's belief in witchcraft varies based on the economic development of their country. We proxy for development in two ways that mimic the measures used for the experimental results: the natural log of GDP per capita (in 2016) and primary school completion rates (for the most recent year available from 2010–2020).[24] To ease interpretation, these measures are normalized to be between 0 and 1.[25] We report the interaction between belief in witchcraft and each of these two measures. Panel B reports the interaction between witchcraft belief and our GDP per capita measure. Panel C reports the interaction between witchcraft belief and the primary schooling completion rate. As in our previous analyses, we find consistent evidence of increasing development worsening the effects of belief in witchcraft. Across all of our outcome measures, individuals report worse outcomes as GDP per capita or primary schooling rates increase.

[24] For additional information on the data sources used in this analysis, refer to Appendix A.8.

[25] Thus, for example, the country with the lowest primary school completion rate (Chad) receives a value of 0. We normalize the GDP and primary completion rate variables separately for the sample of countries for which we have income data and the sample of countries for which we have life satisfaction data.

Table 6: Witchcraft Beliefs, Income, and Life Satisfaction

	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])*		*Step of the ladder [0-1]*	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
					Panel A					
Witchcraft Belief	-0.096***	-0.090***	-0.120***	-0.114***	-0.060***	-0.057***	-0.025***	-0.023***	-0.021***	-0.020***
	(0.013)	(0.013)	(0.013)	(0.013)	(0.005)	(0.005)	(0.003)	(0.003)	(0.002)	(0.002)
					Panel B					
Witchcraft Belief	0.032	0.036	0.007	0.010	-0.049***	-0.046***	0.004	0.006	-0.016***	-0.015***
	(0.026)	(0.026)	(0.026)	(0.026)	(0.009)	(0.009)	(0.006)	(0.006)	(0.004)	(0.004)
Witchcraft Belief										
× **ln(GDP per capita) [0-1]**	-0.310***	-0.305***	-0.308***	-0.302***	-0.027	-0.027	-0.072***	-0.072***	-0.015*	-0.015*
	(0.055)	(0.055)	(0.057)	(0.056)	(0.020)	(0.020)	(0.014)	(0.014)	(0.008)	(0.008)
					Panel C					
Witchcraft Belief	0.048*	0.054**	0.025	0.029	-0.030***	-0.027***	0.003	0.005	-0.004	-0.003
	(0.027)	(0.027)	(0.027)	(0.027)	(0.010)	(0.010)	(0.007)	(0.007)	(0.004)	(0.004)
Witchcraft Belief										
× **Primary Completion Rate [0-1]**	-0.267***	-0.265***	-0.267***	-0.263***	-0.056***	-0.057***	-0.053***	-0.053***	-0.033***	-0.033***
	(0.047)	(0.046)	(0.047)	(0.047)	(0.017)	(0.017)	(0.012)	(0.012)	(0.007)	(0.007)
Demographic Controls	N	Y	N	Y	N	Y	N	Y	N	Y
Observations	46,637	46,605	46,637	46,605	50,435	50,401	49,912	49,878	48,365	48,331
Number of Countries	30	30	30	30	34	34	34	34	33	33
Mean Dep. Var.	7.888	7.888	6.285	6.285	0.398	0.398	0.413	0.412	0.452	0.452
SD Dep. Var.	1.342	1.342	1.392	1.391	0.489	0.489	0.329	0.329	0.195	0.195

Notes: The table reports OLS estimates. An observation is an individual. All specifications include country-wave fixed effects. *Witchcraft Belief* is a dummy variable equal to 1 if the individual answered "Yes" to the question "Do you believe in witchcraft?" and zero 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 World Bank Data Bank, normalized to be between 0 and 1. *Primary Completion Rate [0-1]* is the share of individuals who have completed primary school as reported in World Bank Data Bank, normalized to be between 0 and 1. *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. *Step of the ladder [0-1]* is increasing in the individual's perceived ranking of their life. *Demographic controls* include age, age squared, gender, and their interactions. Coefficients are reported with robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

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. The religious foundation provides stability and structure to society. At the same time, there are numerous accounts of these religions being stigmatized due to demonization by Islam and Christianity, which have spread across the continent. If true, this threatens the traditional religious foundation of much of African society.

In this paper, we examined this issue and study whether there are adverse social consequences to believing in traditional religion. We implemented a series of experiments, norms measurement, and measurement of perceptions of those who hold traditional beliefs. We found consistent and strong evidence that those with strong traditional beliefs are viewed and treated less pro-socially by others.

Across the experiments that we implemented – the Dictator Game (DG), Choose Your Dictator Game (CYD), and Joy of Destruction Game (JOD) – participants (i.e., player 1) consistently chose actions that were less beneficial for the other player (i.e., player 2) when the other player had stronger traditional religious beliefs. Players gave less in the DG, they were less likely to choose to partner with the player in the CYD game, and they were more likely to reduce the other player's payoff and less likely to increase their payoff in the JOD game. We find that these effects are surprisingly general. They are not attenuated by player 1's own belief in traditional religion, Christianity, nor proxies of their economic status. In addition, while we find that player 2's traditional religious beliefs matter for the treatment they receive, we do not find evidence that any other characteristics matter.

We found the magnitude of these effects to be large. According to our estimates, if a player 2 from the urban sample 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. A similar player 2 who did not believe in traditional religion would earn $3.54, a difference of 39 cents or 12.4%. For 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, a ten percent difference in incomes is significant. In addition, 73 percent of the sample holds strong or very strong traditional beliefs.

Thus, not only is the magnitude of the effect large, it is also relevant for most of the population.

We also examined the perceptions and norms that supported the behavior. We measured norms by asking participants what behaviors of player 1 (towards player 2) were socially acceptable using the Krupka-Weber norm elicitation strategy. We found that norms varied depending on whether player 2 held traditional beliefs or not. Consistent with the observed actions in the behavioral games, when player 2 held stronger traditional religious beliefs, acting less prosocially towards them was perceived as being more socially acceptable and acting more prosocially towards them was less socially acceptable.

We examined perceptions of those with and without traditional religious beliefs using a variant of the conjunction fallacy to elicit these views. We find that traditional religious beliefs tend to be associated with negative traits like vindictiveness, jealousy, selfishness, dishonesty, and being a social outcast and they tend not to be associated with positive traits like benevolence, generosity, honesty, being even tempered, and being social included. These perceptions are a potentially important foundation for the antisocial norms and behavior that we documented.

We found that the estimated effects are universal. Examining heterogeneity of the effects by the traits of player 1 and player 2, we were unable to find any subset of individuals with specific traits for which the results we document are absent. This is true in both the urban and rural samples.

A natural reaction is to perceive these as short-run and transitory effects that will be ameliorated by economic development. However, our estimates provided limited evidence that economic development, through increases in wealth or education, will attenuate these effects. As noted, when we examined heterogeneity, we found no evidence that any of the decision maker's characteristics attenuate these negative effects. In fact, we find that those who are wealthier and more educated act even *less* prosocially towards those with strong traditional beliefs. None of the characteristics of the receiver – including their education or wealth – attenuates the effects on how they are treated by others. In addition, we find that the magnitude of our effects are larger in the more-developed urban sample than the less-developed rural sample. Thus, our findings indicate that, if anything, future economic development might actually exacerbate the effects we found here.[26]

[26] It is possible that economic development might reduce the prevalence of traditional religious beliefs. This has not been shown empirically and would be fruitful future research. This said, waiting for the elimination of traditional religions does not seem like the best solution to the adverse effects that we document here.

Overall, our study provides clear and consistent evidence of the stigmatization of those who hold traditional religious beliefs. Given that across the African continent, and much of the world, large proportions of the population 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 policy that attempts to minimize these effects to the extent possible. We view this as an important and pressing area of future research.

References

Abramitzky, Ran, "The Limits of Equality: Insights from the Israeli Kibbutz," *Quarterly Journal of Economics*, 2008, *123* (3), 1111–1159.

Aderibigbe, Ibigbolade S. and Toyin Falola, *The Palgrave Handbook of African Traditional Religion*, Cham, Switzerland: Springer Nature, 2022.

Alesina, Alberto, Sebastian Hohmann, Stelios Michalopoulos, and Elias Papaioannou, "Religion and Educational Mobility in Africa," *Nature*, 2023, *618*, 134–143.

Alidou, Sahawal and Marijke Verpoorten, "Only Women can Whisper to Gods: Voodoo, Menopause and Women's Autonomy," *World Development*, 2019, *119*, 40–54.

Alonso, Elena Briones, Romain Houssa, and Marijke Verpoorten, "Voodoo versus Fishing Committees: The Role of Traditional and Contemporary Institutions in Fisheries Management," *Ecological Economics*, 2016, *122*, 61–70.

Auriol, Emmanuelle, Diego Delissaint, Maleke Fourati, Josepa Miquel-Florensa, and Paul Seabright, "Trust in the Image of God: Links Between Religiosity and Reciprocity in Haiti," *Economics of Transition and Institutional Change*, 2021, *29* (1), 3–34.

_ , Julie Lassébie, Amma Panin, Eva Raiber, and Paul Seabright, "God Insures those Who Pay? Formal Insurance and Religious Offerings in Ghana," *Quarterly Journal of Economics*, 2020, *135* (4), 1799–1848.

Barro, Robert and Rachel McCleary, "Religion and Economic Growth across Countries," *American Sociological Review*, 2003, *68* (5), 760–781.

_ and _ , "Religion and Economy," *Journal of Economic Perspectives*, 2006, *20* (2), 49–72.

Bazzi, Samuel, Gabriel Koehler-Derrick, and Benjamin Marx, "The Institutional Foundations of Religious Politics: Evidence from Indonesia," *Quarterly Journal of Economics*, 2020, *135* (2), 845–911.

Becker, Sascha O. and Ludger Woessmann, "Was Weber Wrong? A Human Capital Theory of Protestant Economic History," *Quarterly Journal of Economics*, 2009, *124* (2), 531–596.

Belloc, Marianna, Francesco Drago, and Roberto Galbiati, "Earthquakes, Religion, and Transition to Self-Government in Italian Cities," *Quarterly Journal of Economics*, 2016, *131* (4), 394–399.

Benjamin, Daniel J., James J. Choi, and Geoffrey Fisher, "Religious Identity and Economic Behavior," *Review of Economics and Statistics*, 2016, *98* (4), 617–637.

Bennett, Daniel, Asjad Naqvi, and Wolf-Peter Schmidt, "Learning, Hygiene and Traditional Medicine," *Economic Journal*, 2018, *128* (612), F545–F574.

Bryan, Gharad, James J. Choi, and Dean Karlan, "Randomizing Religion: The Impact of Protestant Evangelism on Economic Outcomes," *Quarterly Journal of Economics*, 2021, *136* (1), 293–380.

Bursztyn, Leonard, Alessandra L. Gonzalez, and David Yanagizawa-Drott, "Misperceived Social Norms: Women Working Outside the Home in Saudi Arabia," *American Economic Review*, 2020, *110* (10), 2997–3029.

Butinda, Lewis Dunia, Aimable Amani Lameke, Nathan Nunn, Max Posch, and Raul Sanchez de la Sierra, "On the Importance of African Traditional Religion for Economic Behavior," 2023. Working Paper.

Caicedo, Felipe Valencia, "The Mission: Economic Persistence, Human Capital Transmission and Culture in South America," *Quarterly Journal of Economics*, 2019, *134* (1), 509–556.

_ , Thomas Dohmen, and Andreas Pondorfer, "Religion and Prosociality across the Globe," May 2021. Working paper, University of British Columbia.

Campante, Filipe and David Yanagizawa-Drott, "Does Religion Affect Economic Growth and Happiness? Evidence from Ramadan," *Quarterly Journal of Economics*, 2015, *130* (2), 615–658.

Cantoni, Davide, Jeremiah Dittmar, and Noam Yuchtman, "Religious Competition and Reallocation: the Political Economy of Secularization in the Protestant Reformation," *Quarterly Journal of Economics*, 2018, *133* (4), 2037–2096.

Chaney, Eric, "Revolt on the Nile: Economic Shocks, Religion, and Political Power," *Econometrica*, 2013, *81* (5), 2033–2053.

Chen, Zhiwu, Chicheng Ma, and Andrew J. Sinclair, "Banking on the Confucian Clan: Why China Developed Financial Markets so Late," *Economic Journal*, 2022, *132* (644), 1378–1413.

Chitakure, John, *African Traditional Religion Encounters Christianity: The Resilience of a Demonized Religion*, Eugene, O.R.: Pickwick Publications, 2017.

Clingingsmith, David, Asim Ijaz Khwaja, and Michael Kremer, "Estimating the Impact of the Hajj: Religion and Tolerance in Islam's Global Gathering," *Quarterly Journal of Economics*, 2009, *124* (3), 1133–1170.

Costa-Font, Joan, Paola Giuliano, and Berkay Ozcan, "The Cultural Origin of Saving Behavior," *PLOS ONE*, 2018, *13* (9), 1–10.

Deopa, Neha, "Sacred Ecology: The Environmental Impact of African Traditional Religions," 2022. Working paper.

Douglas, Mary, "Techniques of Sorcery Control in Central Africa," in John Middleton and E. H. Winter, eds., *Witchcraft and Sorcery in East Africa*, Routledge, 2004.

Espin-Sanchez, Jose-Antonio, Salvador Gil-Guirado, and Nicholas Ryan, "Praying for Rain: The Climate and Instrumental Religious Belief," 2023. Working paper.

Evans-Pritchard, E. E., *Witchcraft, Oracles and Magic among the Azande*, Oxford: Oxford University Press, 1976.

Fernandez, Raquel, "Women, Work and Culture," *Journal of the European Economic Association*, 2007, *5* (2–3), 305–332.

_ **and Alessandra Fogli**, "Culture: An Empirical Investigation of Beliefs, Work, and Fertility," *American Economic Journal: Macroeconomics*, 2009, *1* (1), 146–177.

Forde, Daryll, *Ethnographic Survey of Africa*, Routledge, 2017.

Fruehwirth, Jane Cooley, Sriya Iyer, and Anwen Zhang, "Religion and Depression in Adolescence," *Journal of Political Economy*, 2019, *127* (3), 1178–1209.

Gershman, Boris, "The Economic Origins of the Evil Eye Belief," *Journal of Economic Behavior & Organization*, 2015, *110*, 119–144.

_ , "Witchcraft Beliefs and the Erosion of Social Capital: Evidence from Sub-Saharan," *Journal of Development Economics*, 2016, *120*, 182–208.

_ , "Witchcraft Beliefs as a Cultural Legacy of the Atlantic Slave Trade: Evidence from Two Continents," *European Economic Review*, 2020, *122*, 103362.

_ , "Witchcraft Beliefs, Social Relations, and Development," in Klaus F. Zimmermann, ed., *Handbook of Labor, Human Resources and Population Economics*, Cham: Springer, 2021.

_ , "Witchcraft Beliefs Around the World: An Exploratory Analysis," 2022. Working paper.

Geschiere, Paul, *The Modernity of Witchcraft*, University Press of Virginia, 1997.

Glaeser, Edward L., Giacomo A. M. Ponzetto, and Jesse M. Shapiro, "Strategic Extremism: Why Republicans and Democrats Divide on Religious Values," *Quarterly Journal of Economics*, 2005, *120* (4), 1283–1330.

Gluckman, Max, *Custom and Conflict in Africa*, Glencoe: The Free Press, 1955.

Gruber, Jonathan and Daniel M. Hungerman, "The Church versus the Mall: What Happens When Religion Faces Increased Secular Competition?," *Quarterly Journal of Economics*, 2008, *123* (2), 831–862.

Hadnes, Myriam and Heiner Schumacher, "The Gods Are Watching: An Experimental Study of Religion and Traditional Belief in Burkina Faso," *Journal for the Scientific Study of Religion*, 2012, *51* (4), 689–704.

Halla, Martin, Chia-Lun Liu, and Jin-Tan Liu, "The Effect of Superstition on Health: Evidence from the Taiwanese Ghost Month," 2019. NBER Working Paper No. 25474.

Hoff, Karla, Mayuresh Kshetramade, and Ernst Fehr, "Caste and Punishment: The Legacy of Caste Culture in Norm Enforcement," *Economic Journal*, November 2011, *121* (556), F449–F475.

Iannaccone, Laurence R., "Sacrifice and Stigma: Reducing Free-Riding in Cults, Communes, and Other Collectives," *Journal of Political Economy*, 1992, *100* (2), 271–291.

Ipsos, "Ghost Encounters: Nearly Half of Canadians (46%) Believe in Supernatural Beings; 13% Have Stayed at Haunted Hotel," 2021.

Iyer, Sriya, "The New Economics of Religion," *Journal of Economic Literature*, 2016, *54* (2), 395–441.

Johnson, Dominic and Oliver Kruger, "The Good of Wrath: Supernatural Punishment and the Evolution of Cooperation," *Political Theory*, 2004, *5* (2), 159–176.

Kavanagh, Christopher and Jonathan Jong, "Is Japan Religious?," 2019.

Kimbrough, Erik O. and Alexander Vostroknutov, "Norms Make Preferences Social," *Journal of the European Economic Association*, 2016, *14* (3), 608–638.

Koyama, Mark and Noel Johnson, "Jewish Communities and City Growth in Preindustrial Europe," *Journal of Development Economics*, 2017, *127*, 339–354.

Krige, Jacob Daniel, *The Social Function of Witchcraft*, Pietermaritzburg: Shuter and Shooter, 1947.

Krupka, Erin L. and Roberto A. Weber, "Identifying Social Norms Using Coordination Games: Why Does Dictator Game Sharing Vary?," *Journal of the European Economic Association*, 2013, *1* (3), 495–524.

Kung, James Kai-Sing and Chicheng Ma, "Can Cultural Norms Reduce Conflicts? Confucianism and Peasant Rebellions in Qing China," *Journal of Development Economics*, 2014, *111*, 132–149.

Leeson, Peter, "Oracles," *Rationality and Society*, 2014, *26* (2), 141–169.

_ **and Jacob W. Russ**, "Witch Trials," *Economic Journal*, 2018, *128* (613), 2066–2105.

Long, Nguyen Trong and Vu Hong Van, "Ancestor Worshiping Beliefs in the Beliefs and Religion life of Vietnamese People: Nature, Values, and Changes of it in the Current Period," *PalArch's Journal of Archaeology of Egypt/Egyptology*, 2020, *17* (3), 370–388.

Lowes, Sara and Nathan Nunn, "How Does Witchcraft Affect Pro-Social Behavior?," 2018. AEA RCT Registry. Sept 1, 2018. AEARCTR-0003276. `https://www.socialscienceregistry.org/trials/3276`.

_ **and** _ , "Understanding Mechanisms Underlying the Relationship between Witchcraft and Prosocial Behavior," 2019. AEA RCT Registry. Oct. 2019. AEARCTR-0004878 `https://www.socialscienceregistry.org/trials/4878`.

_ **, Eduardo Montero, Nathan Nunn, and James Robinson**, "Traditional Beliefs and Political Authority in the DRC," 2023.

Mace, Ruth, Matthew G. Thomas, Jiajia Wu, QiaoQiao He, Ting Ji, and Yi Tao, "Population Structured by Witchcraft Beliefs," *Nature Human Behaivor*, 2018, *2* (1), 39–44.

Mantnieks, P., *Carte du Congo Belge et du Ruanda-Urundi : physique, politique, administrative, routière*, Bruxelles, Belge: Institut Cartographique, 1951.

Mehmood, Sultan, Avner Seror, and Daniel L. Chen, "Ramadan fasting increases leniency in judges from Pakistan and India," *Nature Human Behaviour*, 2023, *7* (6), 874–880.

Mekoa, Itumeleng, "The Living-Dead/Ancestors as Guardians of Morality in African Traditional Religious Thought," *Global Journal of Archaeology & Anthropology*, 2019, *10* (5), 99–104.

Michalopoulos, Stelios and Melanie Xue, "Folklore," *Quarterly Journal of Economics*, November 2021, *136* (4), 1993–2046.

Miguel, Edward, "Poverty and Witch Killing," *Review of Economic Studies*, 2005, *72* (4), 1153–1172.

Mocan, Naci and Han Yu, "Can Superstition Create a Self-Fulfilling Prophecy? Schooling Outcomes of Dragon Children in China," 2017. NBER Working Paper No. 23709.

Montero, Eduardo and Dean Yang, "Religious Festivals and Economic Development: Evidence from the Timing of Mexican Saint Day Festivals," *American Economic Review*, 2022, *112* (10), 3176–3214.

Niehaus, Isak, *Witchcraft, Power and Politics*, London: Pluto Press, 2001.

Norenzayan, Ara, *Big Gods: How Religion Transformed Cooperation and Conflict*, Princeton: Princeton University Press, 2013.

Nunn, Nathan and Raul Sanchez de la Sierra, "Why Being Wrong Can Be Right: Magical Warfare Technologies and the Persistence of False Beliefs," *American Economic Review Papers and Proceedings*, 2017, *107* (5), 582–587.

Oster, Emily, "Witchcraft, Weather and Economic Growth in Renaissance Europe," *Journal of Economic Perspectives*, 2004, *18* (1), 215–228.

Owusu, Emmanuel Sarpong, "The Superstition that Maims the Vulnerable: Establishing the Magnitdue of Witchcraft-Driven Mistreatment of Children and Older Women in Ghana," *International Annals of Criminology*, 2020, *58*, 215–228.

Pascali, Luigi, "Banks and Development: Jewish Communities in the Italian Renaissance and Current Economic Performance," *Review of Economics and Statistics*, 2016, *98* (1), 140–158.

Paton, Diana, "Obeah Acts: Producing and Policing the boundaries of religion in the Caribbean," *Small Axe: A Caribbean Journal of Criticism*, 2009, *13* (1), 1–18.

Pepper, Miriam and Ruth Powell, "Religion, Spirituality and Connections with Churches: Results from the 2018 Australian Community Survey," *NCLS Occasional Paper*, 2018, *36*, 4.

Pietz, William, *The Problem of the Fetish*, Chicago: University of Chicago Press, 2022.

Platteau, Jean-Philippe, "Institutional Obstacles to African Economic Development: State, Ethnicity, and Custom," *Journal of Economic Behavior and Organization*, 2009, *71* (3), 669–689.

_ , *Islam Instrumentalized: Religion and Politics in Historical Perspective*, New York: Cambridge University Press, 2017.

Pobee, John S. and Emmanuel H. Mends, "Social Change and African Traditional Religion," *Sociological Analysis*, 1977, *38* (1), 1–12.

Rubin, Jared, *Rulers, Religion, and Riches*, Cambridge: Cambridge University Press, 2017.

Salazar, Ariana Monique, "Religion in India: Tolerance and Segregation," 2021.

Squicciarini, Mara P., "Devotion and Development: Religiosity, Education, and Economic Progress in Nineteenth-Century France," *American Economic Review*, 2020, *110* (11), 3454–3491.

Stoop, Nik and Marijke Verpoorten, "Risk, Envy and Magic in the Artisanal Mining Sector of South Kivu, Democratic Republic of Congo," *Development and Change*, 2020, *51* (5), 1199–1224.

_ , _ , and Koen Deconinck, "Voodoo, Vaccines, and Bed Nets," *Economic Development and Cultural Change*, 2019, *67* (3), 40–54.

Thomas, Keith, *Religion and the Decline of Magic*, Oxford: Oxford University Press, 1997.

Tversky, Amos and Daniel Kahneman, "Extension Versus Intuitive Reasoning: The Conjunction Fallacy in Probability Judgement," *Psychological Review*, 1983, *90*, 293–315.

Vyse, Stuart, *Believing in Magic: The Psychology of Superstition*, New York: Oxford University Press, 2014.

Wang, Tianyi, "Media, Pulpit, and Populist Persuasion: Evidence from Father Coughlin," *American Economic Review*, 2021, *111* (9), 3064–3092.

Weber, Max, *The Protestant Ethic and the Spirit of Capitalism*, London: Routledge, 1930.

Yang, Fenggang, Victor Yuan, Anna Sun, Lu Yengfang, Rodney Stark, Byron Johnson, Eric Liu, and C Heu-Yuan, "Spiritual Life Study of Chinese Residents," 2007.

Zizzo, Daniel John and Andrew J. Oswald, "Are People Willing to Pay to Reduce Others' Incomes?," *Annales d'Économie et de Statistique*, 2001, *63-64*, 39–65.

Online Appendix for

The Social Consequences of Traditional Religions in Contemporary Africa

(Not for Publication)

24 December 2023

Etienne Le Rossignol

Université de Namur

Sara Lowes

UC San Diego

Nathan Nunn

University of British Columbia

Appendix A. Appendix Materials

A.1. Data Collection

Table A1: 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.

Figure A1: Satellite Image of the Study City with Enumeration Areas

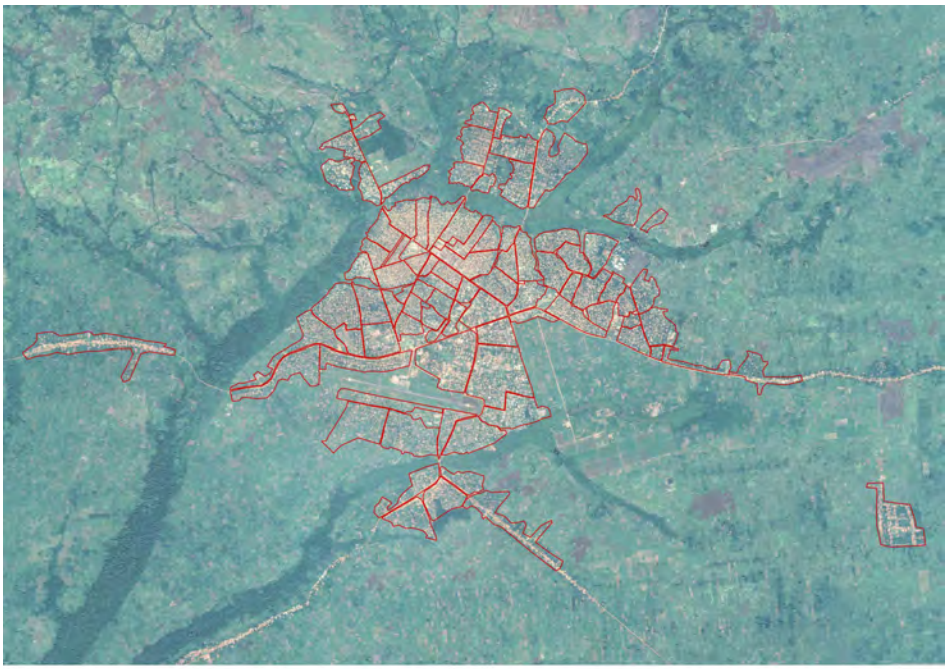


Figure A2: Map of DRC showing Sampled Territory

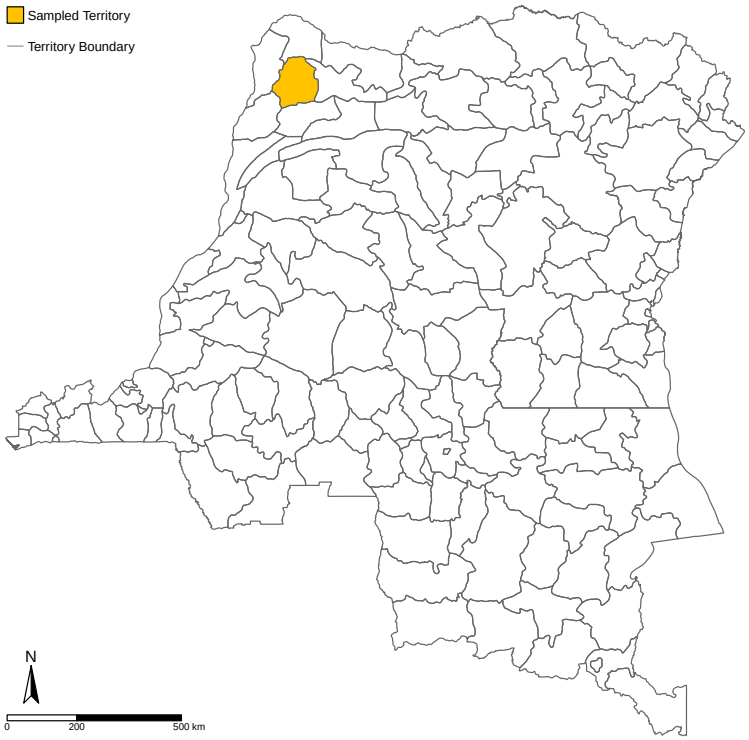


Figure A3: Map of Territory, Capital, and Sampled Villages

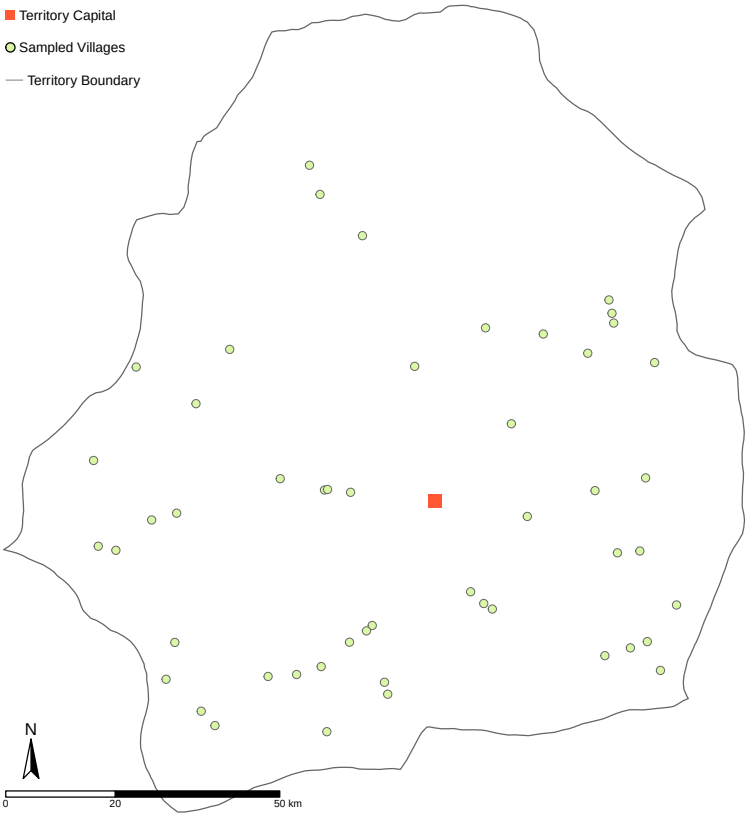


Figure A4: Envelopes used in the Dictator Game

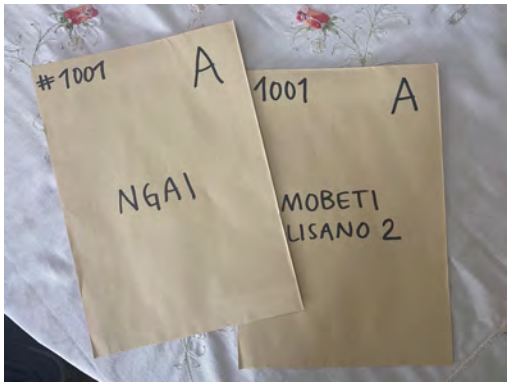
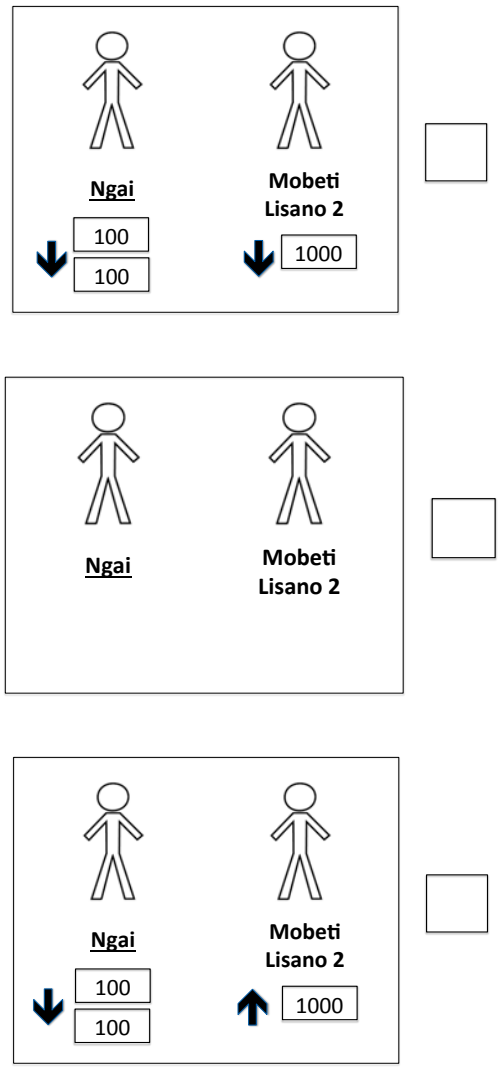


Figure A5: Form Used in the Joy of Destruction Game



A.2. Descriptive Statistics

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: 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
	(-1.50)	(-0.85)	(-1.54)	(-1.59)	(-1.43)	(-0.69)
Completed Primary		0.0450				-0.00697
		(0.35)				(-0.05)
Completed Secondary		-0.275*				-0.352**
		(-1.84)				(-2.29)
Grew up in a rural area			-0.0454			-0.0148
			(-0.41)			(-0.13)
Very Strong Belief in Christian God				0.354***		0.372***
				(2.87)		(3.06)
Ngombe					0.0560	0.153
					(0.34)	(0.91)
Ngbandi					0.112	0.150
					(0.75)	(1.02)
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
	(-0.44)	(0.60)	(-1.27)	(-0.82)	(-0.52)	(-0.51)
Completed Primary		-0.169				-0.154
		(-1.58)				(-1.47)
Completed Secondary		-0.448***				-0.386**
		(-2.91)				(-2.43)
Grew up in a rural area			0.354***			0.280**
			(2.94)			(2.32)
Belief in Christian God, 1-5				0.174***		0.158***
				(3.41)		(3.02)
Ngombe					-1.193**	-1.077**
					(-2.40)	(-1.98)
Ngbandi					0.980***	1.044***
					(11.55)	(8.38)
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.3. Scenarios Used for the Conjunction Fallacy Experiment

Food Scenario

- Papy is a 45 years 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 as 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 brick maker or (2) a brick maker who is a strong believer in bokoko or (3) a brick maker 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 brick maker or (2) a brick maker who is a strong believer in bokoko or (3) a brick maker 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 wellbeing. 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 wellbeing. 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 let 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 let 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 a strong believer in bokoko or (3) a business owner who is a strong believer in the Christian God?

Table A4: JOD Chose to Increase

	OLS: Dep. Var.: Chose to Increase 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	-0.025	-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	1022	1022	1022	1022	1200	1200	1200	1200	2222	2222	2222	2222
Respondents	513	513	513	513	600	600	600	600	1113	1113	1113	1113
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: Robust standard errors in []. Standard errors clustered at the individual level in (). 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. *Chose to Increase in JOD* 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. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Table A5: JOD Chose to Decrease

	OLS: Dep. Var.: Chose to Decrease 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	0.017			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	1022	1022	1022	1022	1200	1200	1200	1200	2222	2222	2222	2222
Respondents	513	513	513	513	600	600	600	600	1113	1113	1113	1113
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: Robust standard errors in []. Standard errors clustered at the individual level in (). 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. *Chose to Decrease in JOD* 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. * p < 0.1; ** p < 0.05; *** p < 0.01

Table A6: JOD Chose to do Nothing

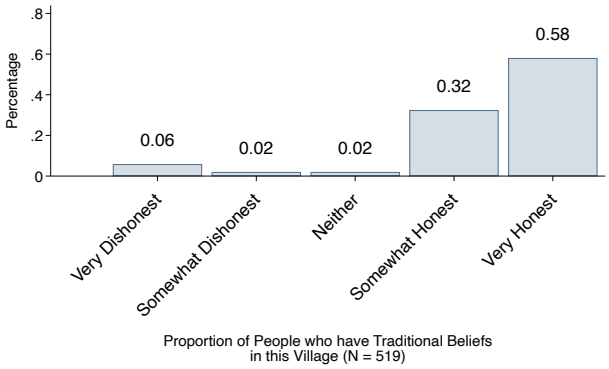
	OLS: Dep. Var.: Chose to do Nothing JOD											
	Urban Sample				*Rural Sample*				*Both Sample*			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Player 2's Traditional Beliefs:												
Integer Measure, 1-4	0.010	0.004			0.008	0.008			0.008	0.006		
	[0.014]	[0.014]			[0.013]	[0.011]			[0.010]	[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	1022	1022	1022	1022	1200	1200	1200	1200	2222	2222	2222	2222
Respondents	513	513	513	513	600	600	600	600	1113	1113	1113	1113
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: Robust standard errors in []. Standard errors clustered at the individual level in (). 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. *Chose to do Nothing in JOD* 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. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

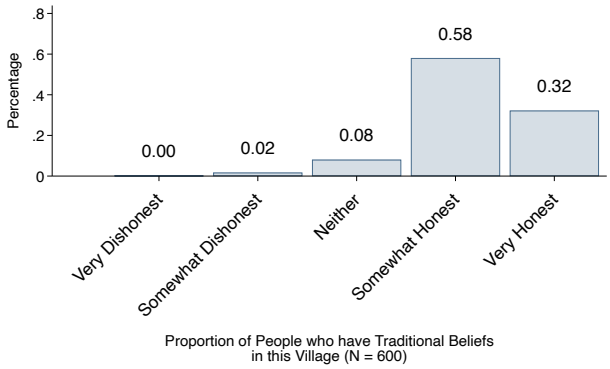
A.4. Main Results with Respondents Deemed Honest by our Interviewers about their Beliefs

Figure A6: Enumerators' Estimation of Respondents' Honesty regarding Traditional Beliefs

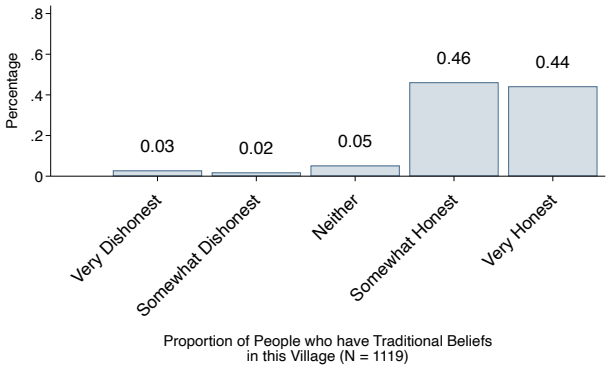
(a) Urban Sample



(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 original answers are: 'very dishonest', 'somewhat dishonest', 'neither dishonest nor honest', 'somewhat honest', or 'very honest'. In these graphs, we renamed these as 'very dishonest', 'somewhat dishonest', 'neither', 'somewhat honest', or 'very honest'. Panel A6a shows the distribution for the urban sample, panel A6b shows the distribution for the rural sample, and panel A6c for both samples pooled together.

Table A7: 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	1178	1178	1178	1178	2136	2136	2136	2136
Respondents	479	479	479	479	589	589	589	589	1068	1068	1068	1068
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: Robust standard errors in []. Standard errors clustered at the individual level in (). 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. *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. * p < 0.1; ** p < 0.05; *** p < 0.01

Table A8: 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	1916	1916	1916	1916	2356	2356	2356	2356	4272	4272	4272	4272
Respondents	479	479	479	479	589	589	589	589	1068	1068	1068	1068
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: Robust standard errors in []. Standard errors clustered at the individual level in (). 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: 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. *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.
* p < 0.1; ** p < 0.05; *** p < 0.01

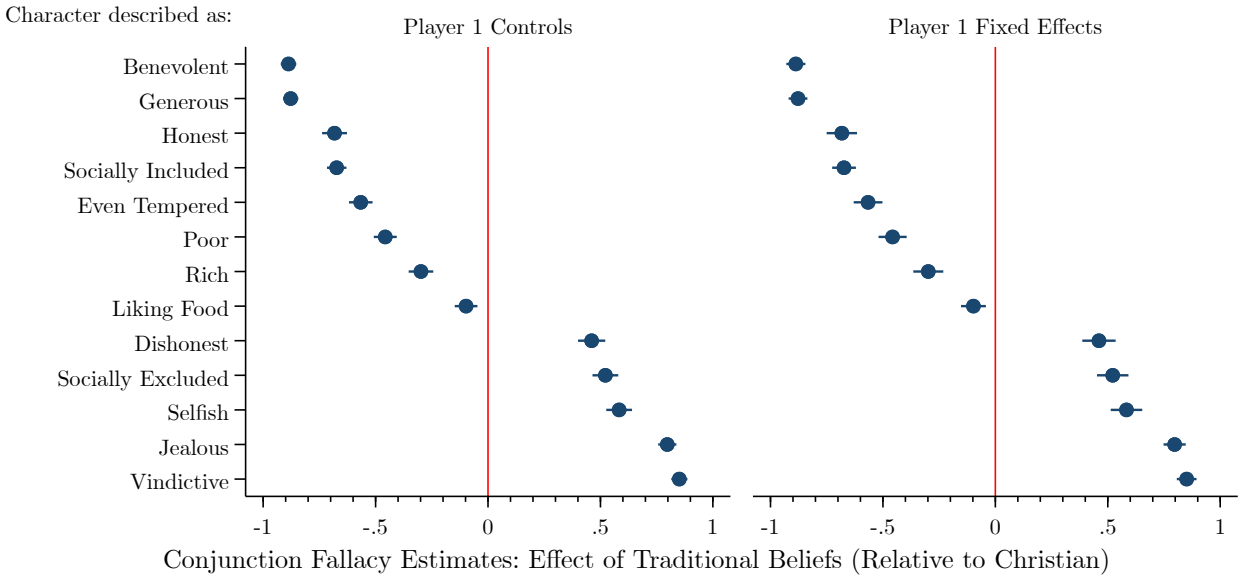
Table A9: Joy of Destruction Game Estimates: Sample of Respondents Considered Honest about their Beliefs

	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	1168	1168	1168	1168	2109	2109	2109	2109
Respondents	472	472	472	472	587	587	587	587	1059	1059	1059	1059
Mean Dep. Var.	0.158	0.158	0.158	0.158	0.0839	0.0839	0.0839	0.0839	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: Robust standard errors in []. Standard errors clustered at the individual level in (). 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. *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. *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. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

A.5. Additional Conjunction Fallacy Estimates

Figure A7: 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.6. Heterogeneity: Behavioral Games Estimates

Table A10: 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:												
Integer Measure, 1-4	-13.455	-3.937			-13.829	-18.098			-14.502	-12.200		
	[14.406]	[9.401]			[15.213]	[11.028]			[10.437]	[7.320]*		
	(9.920)	(13.302)			(11.530)	(15.602)			(7.628)*	(10.355)		
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 Pl. 1 & Pl. 2 Tradi. Beliefs:												
Integer Measure, 1-4 × Integer Measure, 1-4	0.691	-2.723			3.911	4.427			2.605	1.249		
	[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 × Strong or Very Strong			-21.585	-25.189			26.539	28.926			6.246	3.773
			[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	1040	1040	1040	1040	1200	1200	1200	1200	2240	2240	2240	2240
Respondents	520	520	520	520	600	600	600	600	1120	1120	1120	1120
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: Robust standard errors in []. Standard errors clustered at the individual level in (). 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. *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. * p < 0.1; ** p < 0.05; *** p < 0.01

Table A11: 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 Pl. 1 & Pl. 2 Tradi. 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	2080	2080	2080	2080	2400	2400	2400	2400	4480	4480	4480	4480
Respondents	520	520	520	520	600	600	600	600	1120	1120	1120	1120
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: Robust standard errors in []. Standard errors clustered at the individual level in (). 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: 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. *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. * p < 0.1; ** p < 0.05; *** p < 0.01

Table A12: 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			-0.213	-0.228			-0.183	-0.192			-0.198	-0.209
			[0.079]***	[0.071]***			[0.074]**	[0.068]***			[0.054]***	[0.049]***
			(0.072)***	(0.101)**			(0.069)***	(0.097)**			(0.049)***	(0.069)***
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 Pl. 1 & Pl. 2 Tradi. 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	1022	1022	1022	1022	1190	1190	1190	1190	2212	2212	2212	2212
Respondents	513	513	513	513	598	598	598	598	1111	1111	1111	1111
Mean Dep. Var.	0.164	0.164	0.164	0.164	0.0807	0.0807	0.0807	0.0807	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: Robust standard errors in []. Standard errors clustered at the individual level in (). 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. *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. *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. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Figure A8: Heterogeneity of Estimates by Player 1 Characteristics

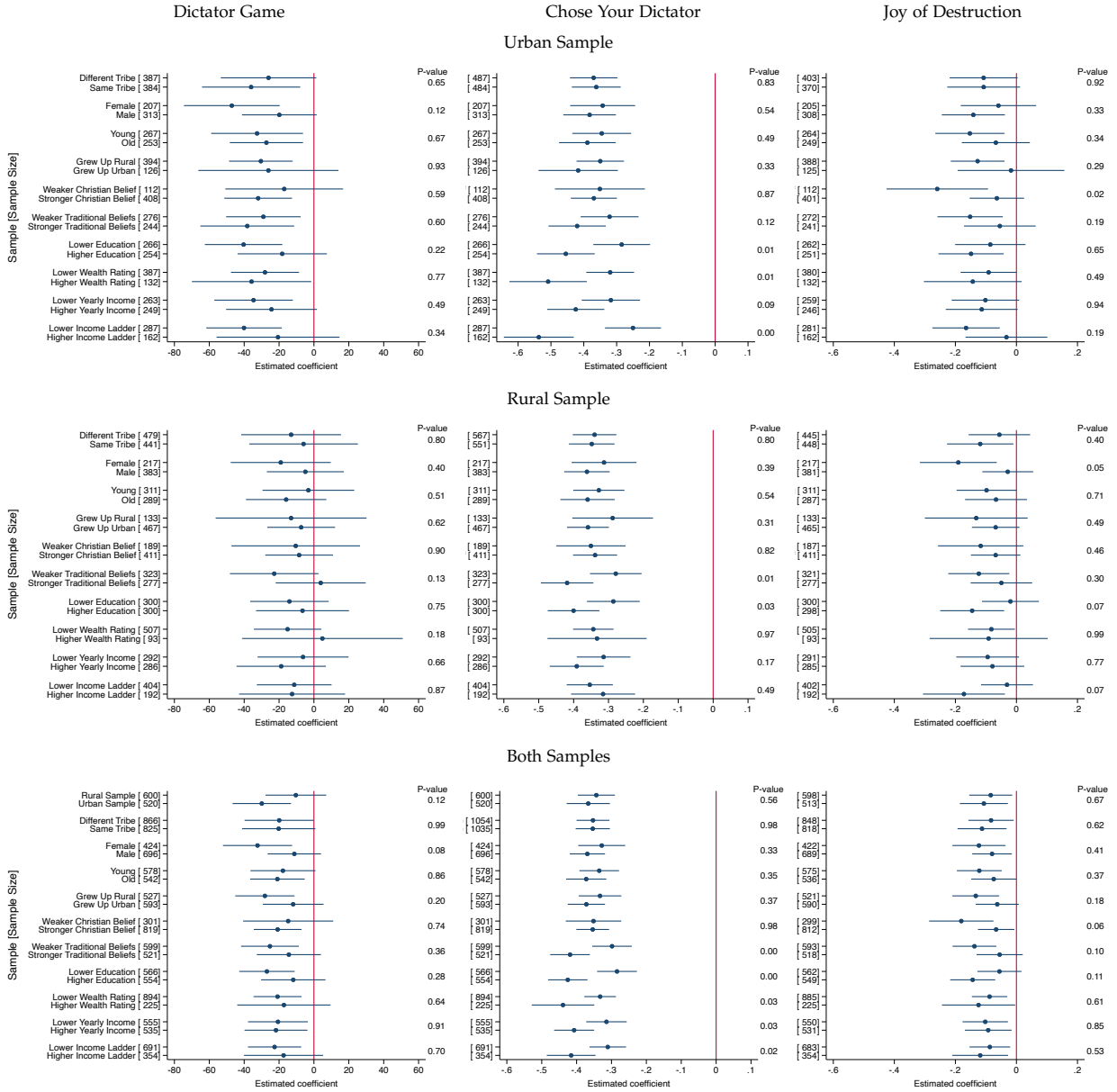
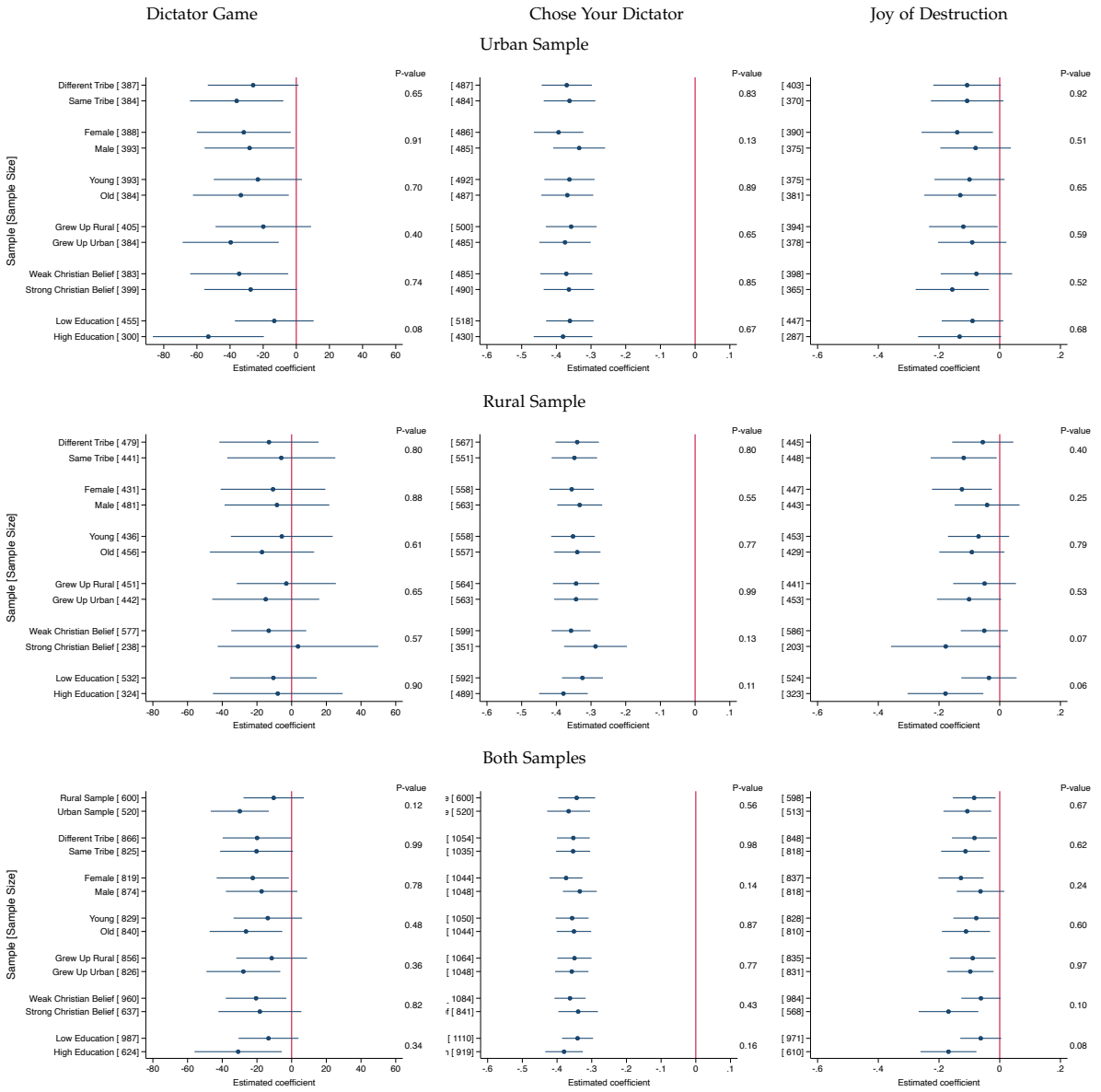


Figure A9: Heterogeneity of Estimates by Player 2 Characteristics



A.7. Heterogeneity by Christian Exposure

As pre-specified, we look at heterogeneity in the effects of Player 2's traditional beliefs by various measure of exposure to Christianity. To increase precision, we report average effect size estimates in addition to the coefficients for each game. We focus on heterogeneity by the presence of Catholic and Protestant missions. Figure A10 presents the AES coefficient for the interaction between player 2 traditional beliefs and various measures of exposure to Christian missions. Across various measures of exposure to Christianity, we find that greater exposure – e.g. closer distance – is associated with more negative effects. In TableA13, we report the estimates by game, in addition to the AES measure.

Figure A10: Heterogeneity by Christian Exposure

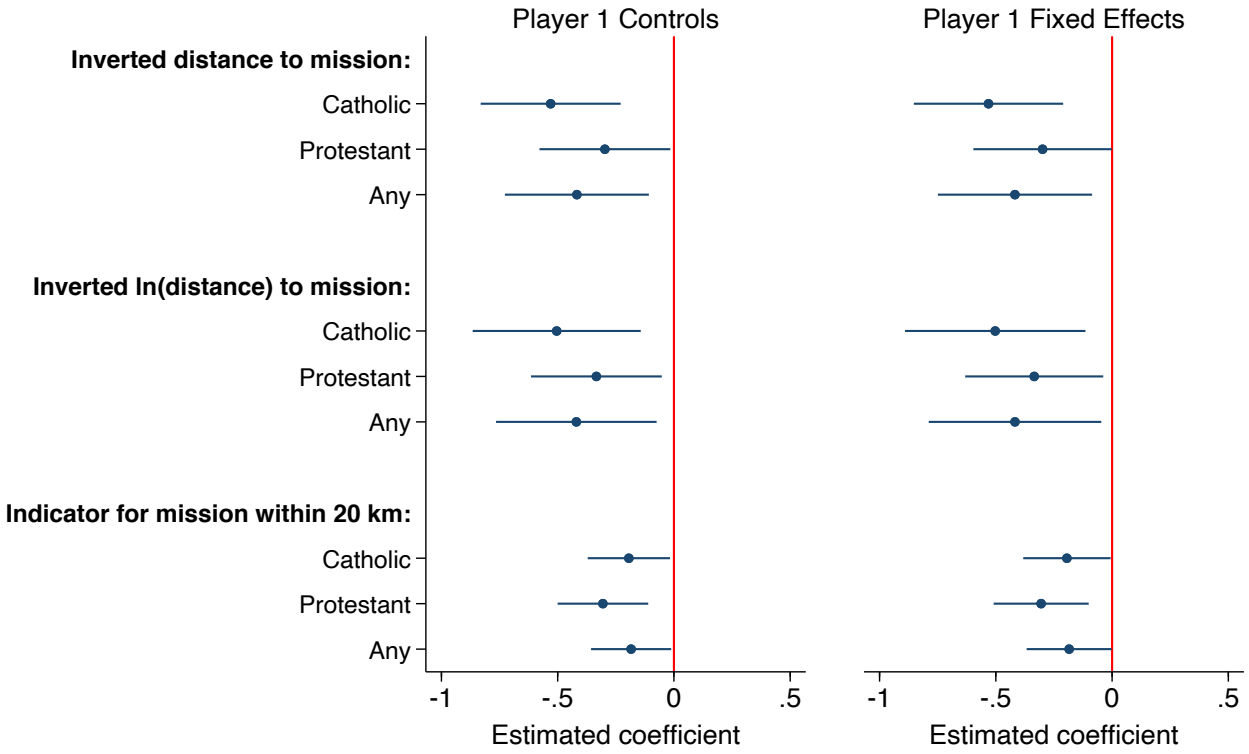
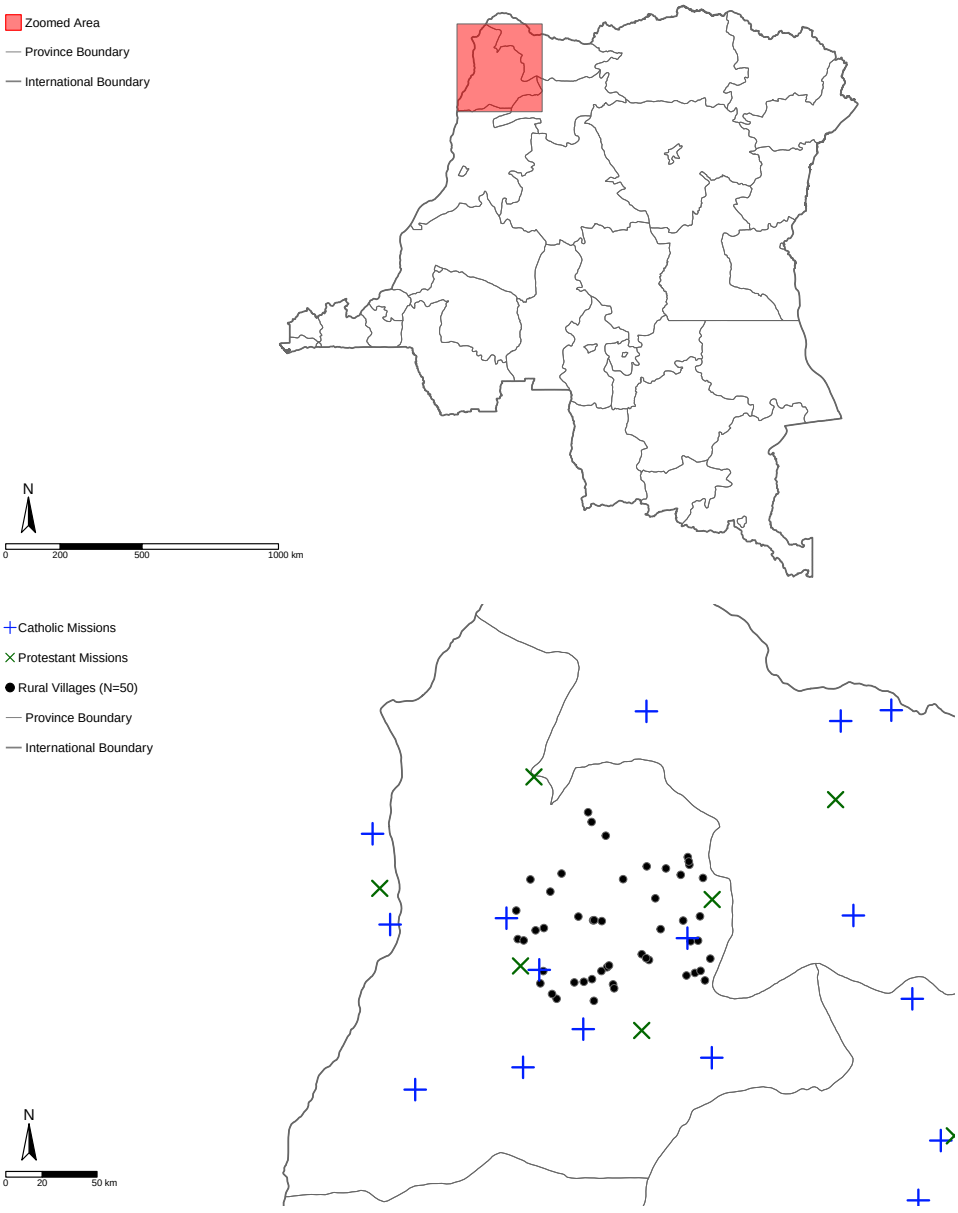


Table A13: Heterogeneity by Village-Level Exposure to Christianity

	OLS, Dep. Var.:							
	DG: Amount Sent		*CYD: Chose*		*JOD: Choice*		*AES*	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Player 2's Traditional Beliefs:								
	Panel A: Inverted distance to historical Catholic mission index, 0-1							
Strong or Very Strong	-29.280	-32.500	-0.441	-0.441	-0.176	-0.167	-0.530	-0.531
× Inv. Distance Catholic Mission	[35.388]	[50.991]	[0.120]***	[0.139]***	[0.140]	[0.208]	[0.150]***	[0.160]***
	Panel B: Inverted distance to historical Protestant mission index, 0-1							
Strong or Very Strong	-42.044	-47.937	-0.252	-0.251	0.019	-0.002	-0.297	-0.299
× Inv. Distance Protestant Mission	[33.254]	[46.871]	[0.112]**	[0.127]*	[0.118]	[0.171]	[0.140]**	[0.148]**
	Panel C: Inverted distance to Any historical mission index, 0-1							
Strong or Very Strong	-40.130	-42.469	-0.351	-0.347	-0.053	-0.057	-0.417	-0.418
× Inv. Distance Any Mission	[34.838]	[49.850]	[0.120]***	[0.140]**	[0.129]	[0.192]	[0.154]***	[0.165]**
	Panel D: ln(Inverted distance) to historical Catholic mission index, 0-1							
Strong or Very Strong	-50.643	-53.104	-0.409	-0.406	-0.100	-0.082	-0.504	-0.503
× Ln(Inv. Distance) Catholic Mission	[37.330]	[52.878]	[0.144]***	[0.168]**	[0.155]	[0.228]	[0.180]***	[0.193]**
	Panel E: ln(Inverted distance) to historical Protestant mission index, 0-1							
Strong or Very Strong	-53.006	-58.901	-0.268	-0.266	0.019	0.003	-0.333	-0.335
× Ln(Inv. Distance) Protestant Mission	[33.630]	[47.211]	[0.106]**	[0.121]**	[0.116]	[0.169]	[0.140]**	[0.148]**
	Panel F: ln(Inverted distance) to Any historical mission index, 0-1							
Strong or Very Strong	-52.907	-54.465	-0.343	-0.337	-0.025	-0.016	-0.420	-0.418
× Ln(Inv. Distance) Any Mission	[37.249]	[52.790]	[0.135]**	[0.157]**	[0.137]	[0.206]	[0.172]**	[0.185]**
	Panel G: Indicator for historical Catholic mission presence within 20 km							
Strong or Very Strong	-38.800	-41.445	-0.137	-0.134	-0.020	-0.023	-0.194	-0.194
× Catholic Mission Presence (20 km)	[18.498]**	[25.662]	[0.070]*	[0.080]	[0.066]	[0.090]	[0.088]**	[0.094]**
	Panel H: Indicator for historical Protestant mission presence within 20 km							
Strong or Very Strong	-59.369	-62.246	-0.229	-0.226	0.030	0.026	-0.306	-0.305
× Protestant Mission Presence (20 km)	[21.783]***	[31.136]*	[0.061]***	[0.069]***	[0.082]	[0.122]	[0.097]***	[0.102]***
	Panel I: Indicator for Any historical mission presence within 20 km							
Strong or Very Strong	-35.289	-37.262	-0.130	-0.126	-0.017	-0.023	-0.184	-0.185
× Any Mission Presence (20 km)	[18.230]*	[25.265]	[0.068]*	[0.078]	[0.065]	[0.089]	[0.086]**	[0.091]**
Player 1 FE	N	Y	N	Y	N	Y	N	Y
Mean Dep. Var.	437.7	437.7	0.500	0.500	0.0807	0.0807	-0.0323	-0.0323
Clusters	50	50	50	50	50	50	50	50
Observations	1200	1200	2400	2400	1190	1190	4790	4790

Notes: This analysis only includes the rural sample. Standard errors clustered at the village 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. *Amount Sent* in DG is the amount Player 1 sends to Player 2 in an anonymous dictator game (in CF). *Chose* in CYD is an indicator variable equal to 1 if this player was selected as 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. *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 < 0.1; ** p < 0.05; *** p < 0.01

Figure A11: Rural Sample & Catholic and Protestant Missions



A.8. 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

Supplemental Material for

The Social Consequences of Traditional Religions in Contemporary Africa

(Not for Online Publication)

24 December 2023

Etienne Le Rossignol
Université de Namur

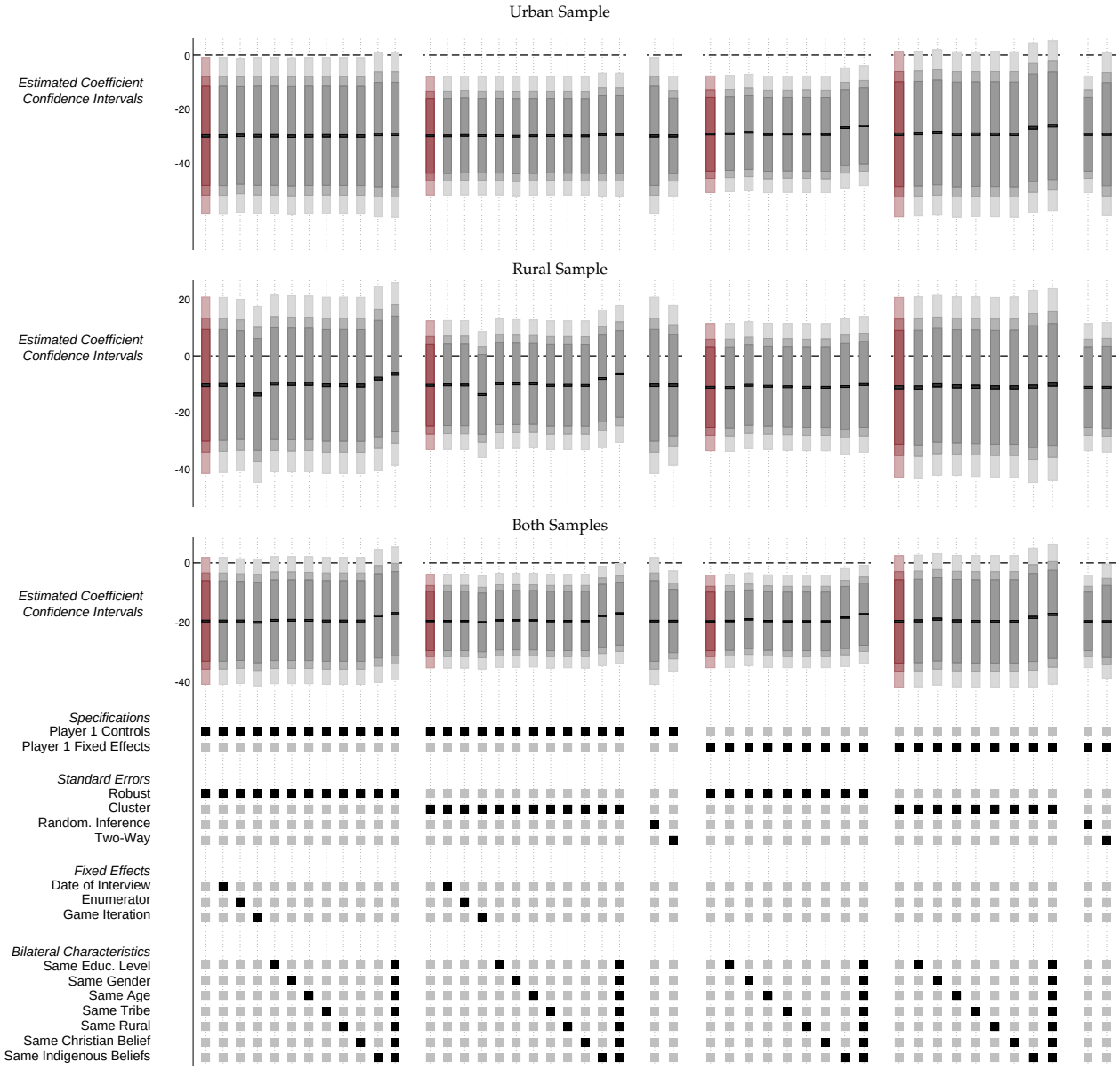
Sara Lowes
UC San Diego

Nathan Nunn
University of British Columbia

Appendix B. Robustness Tables and Figures (Not for publication)

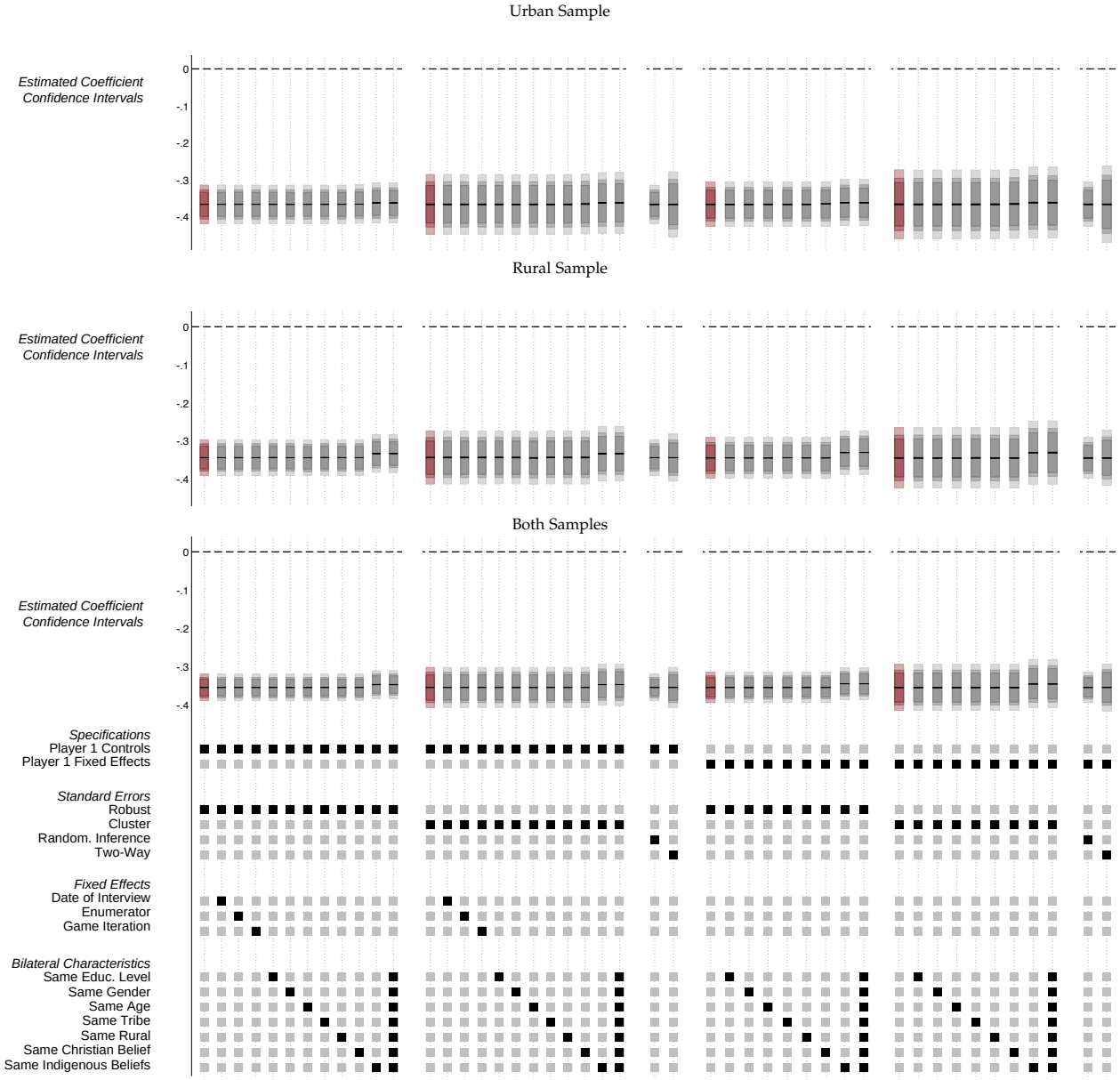
B.1. Robustness Figures for Behavioral Games Estimates

Figure B1: Summary of Robustness Checks: Dictator Game



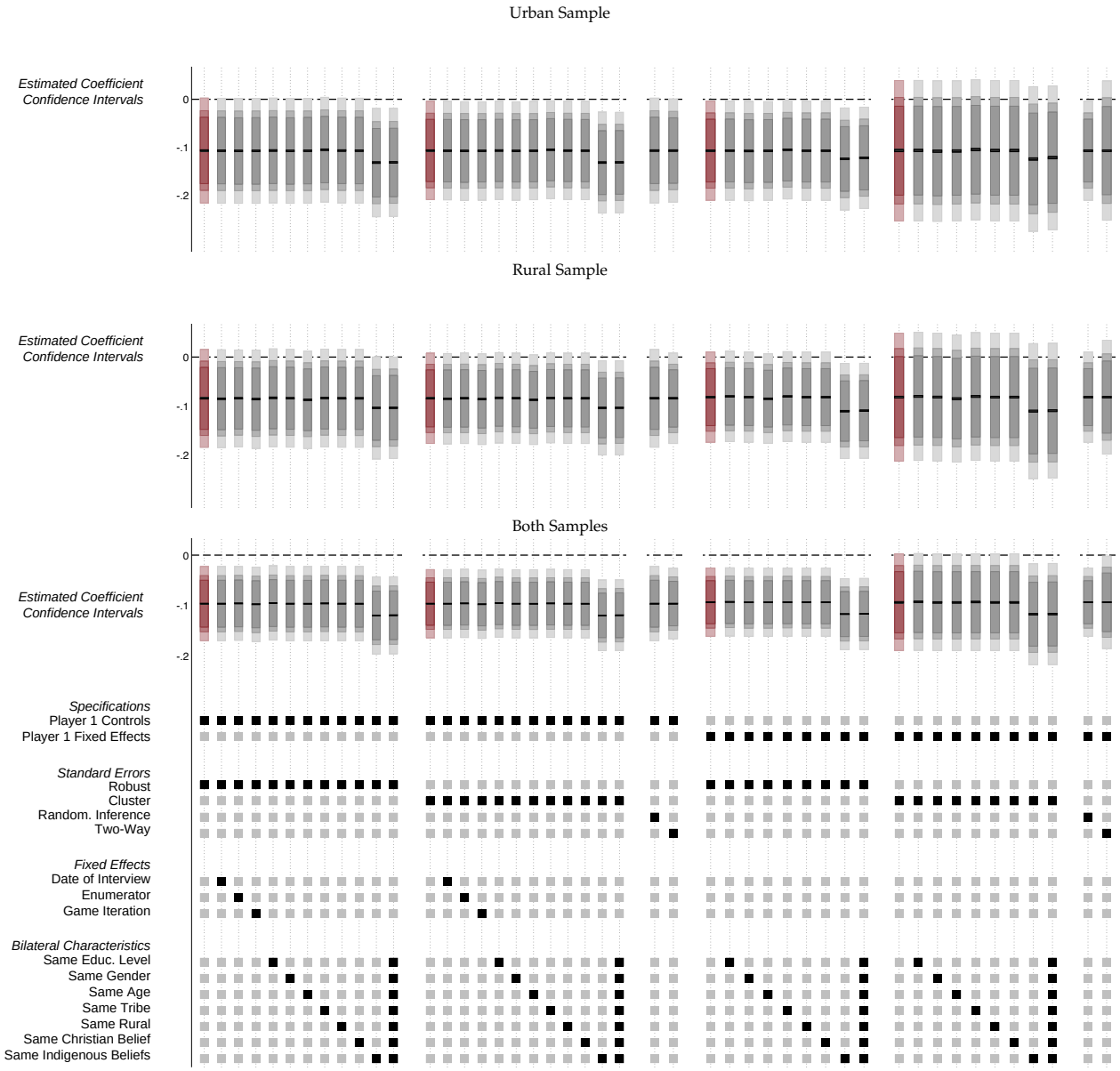
Notes: The figure shows the coefficients and standard errors for the effect of Player 2's Traditional Beliefs on the amount sent by Player 1 to Player 2 (in CF) in an anonymous dictator game. Traditional beliefs are measured with an indicator variable that equals 1 if an individual has strong or very 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 B2: Summary of Robustness Checks: 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 chose Player 2 as dictator in an anonymous 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 B3: Summary of Robustness Checks: 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.

B.2. Additional Sensitivity Checks for Behavioral Games Estimates

Table B1: 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	Y	Y
Observations	1040	1040	1200	1200	2240	2240
Respondents	520	520	600	600	1120	1120
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: Robust standard errors in []. Standard errors clustered at the individual level in (). 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. *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. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Table B2: 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	Y	Y
Observations	2080	2080	2400	2400	4480	4480
Respondents	520	520	600	600	1120	1120
Mean Dep. Var.	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

Notes: Robust standard errors in []. Standard errors clustered at the individual level in (). 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: 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. *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. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Table B3: 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	Y	Y
Observations	1022	1022	1190	1190	2212	2212
Respondents	513	513	598	598	1111	1111
Mean Dep. Var.	0.164	0.164	0.0807	0.0807	0.119	0.119
SD Dep. Var.	0.674	0.674	0.685	0.685	0.681	0.681

Notes: Robust standard errors in []. Standard errors clustered at the individual level in (). 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. *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. *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. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

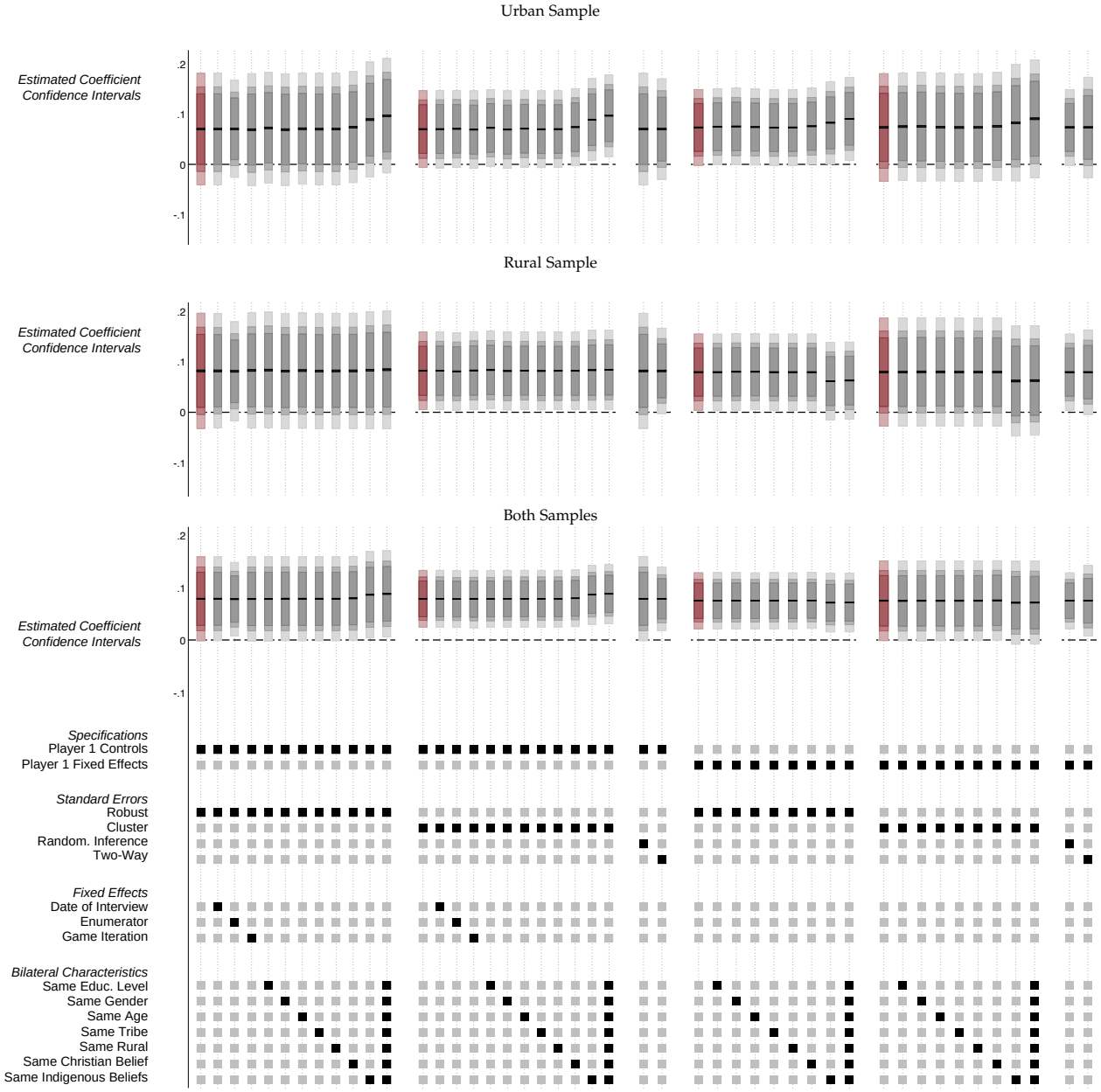
Table B4: CYD: Logit Estimates

	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	2080	2080	2080	2080	2400	2400	2400	2400	4480	4480	4480	4480
Respondents	520	520	520	520	600	600	600	600	1200	1200	1200	1200
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: Robust standard errors in []. Standard errors clustered at the individual level in (). 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: 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. *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. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

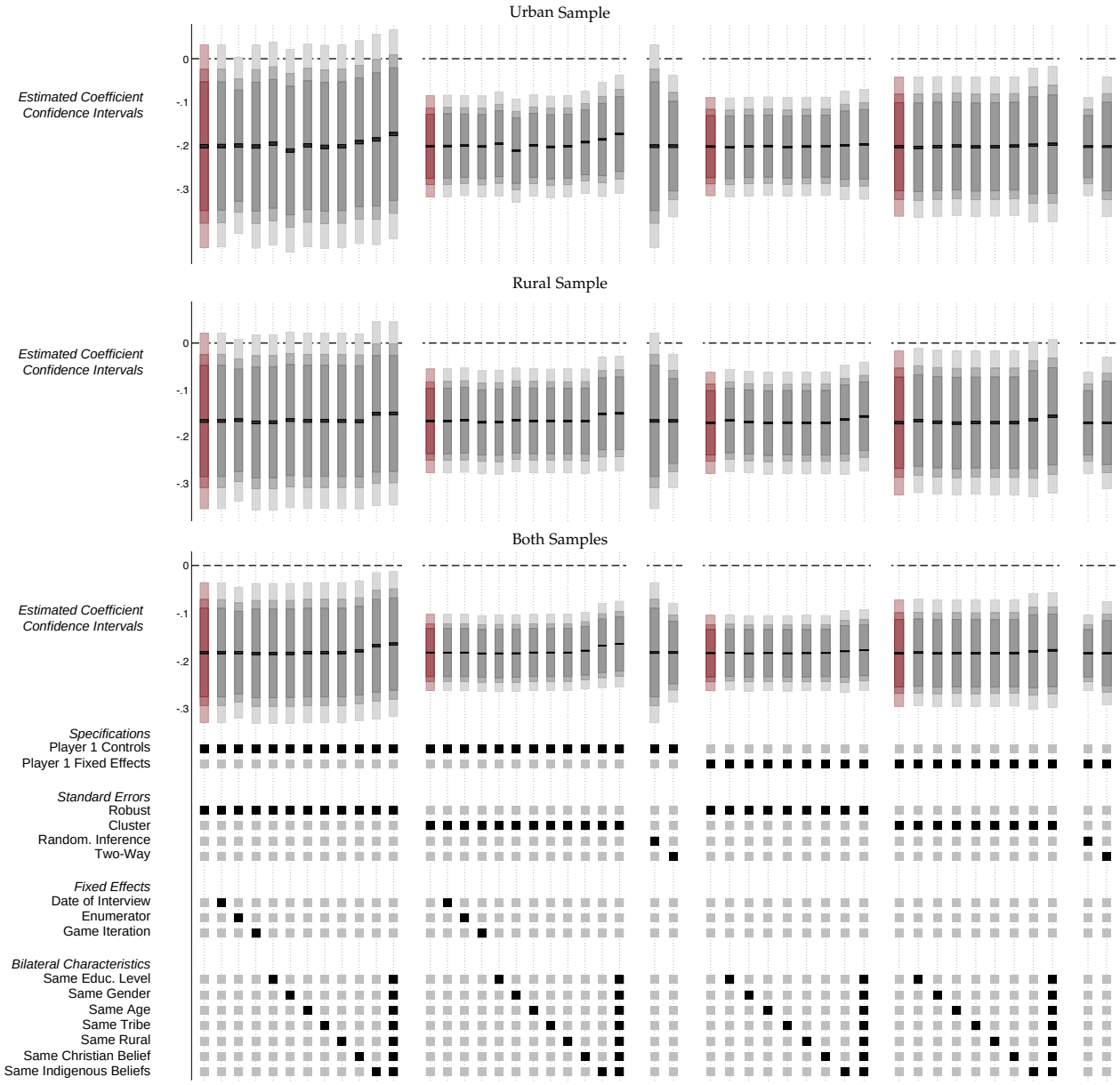
B.3. Robustness Figures for Social Norms Estimates

Figure B4: Robustness: DG Appropriate to Send CF 100 to Player 2



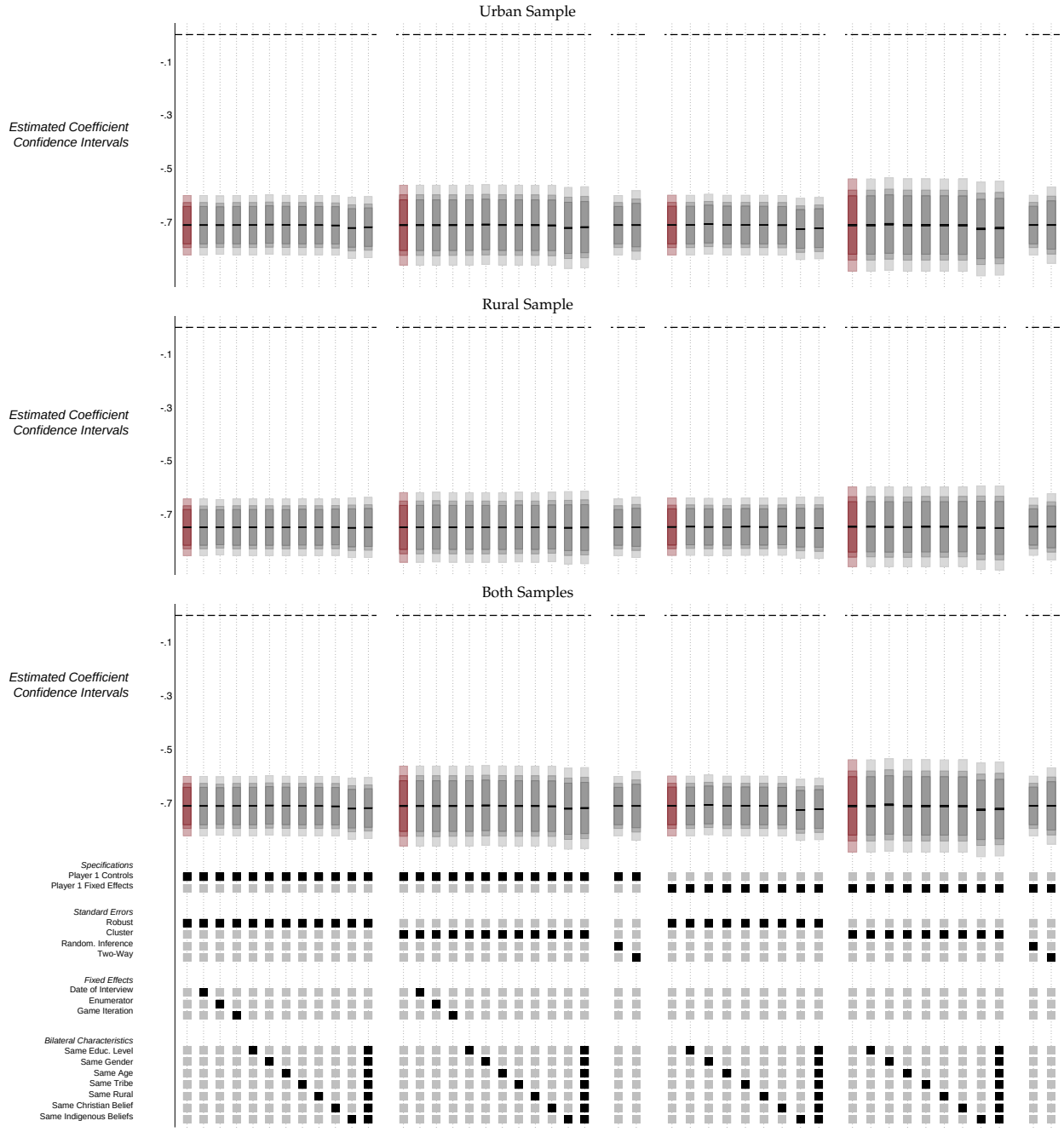
Notes: The figure shows the coefficients and standard errors for the effect of Player 2's Traditional Beliefs on the appropriateness to send CF100 to a Player 2 that has strong traditional beliefs. Traditional Beliefs are measured with an indicator variable that equals 1 if an individual has strong or 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 B5: Robustness: DG Appropriate to Send CF 1,000 to Player 2



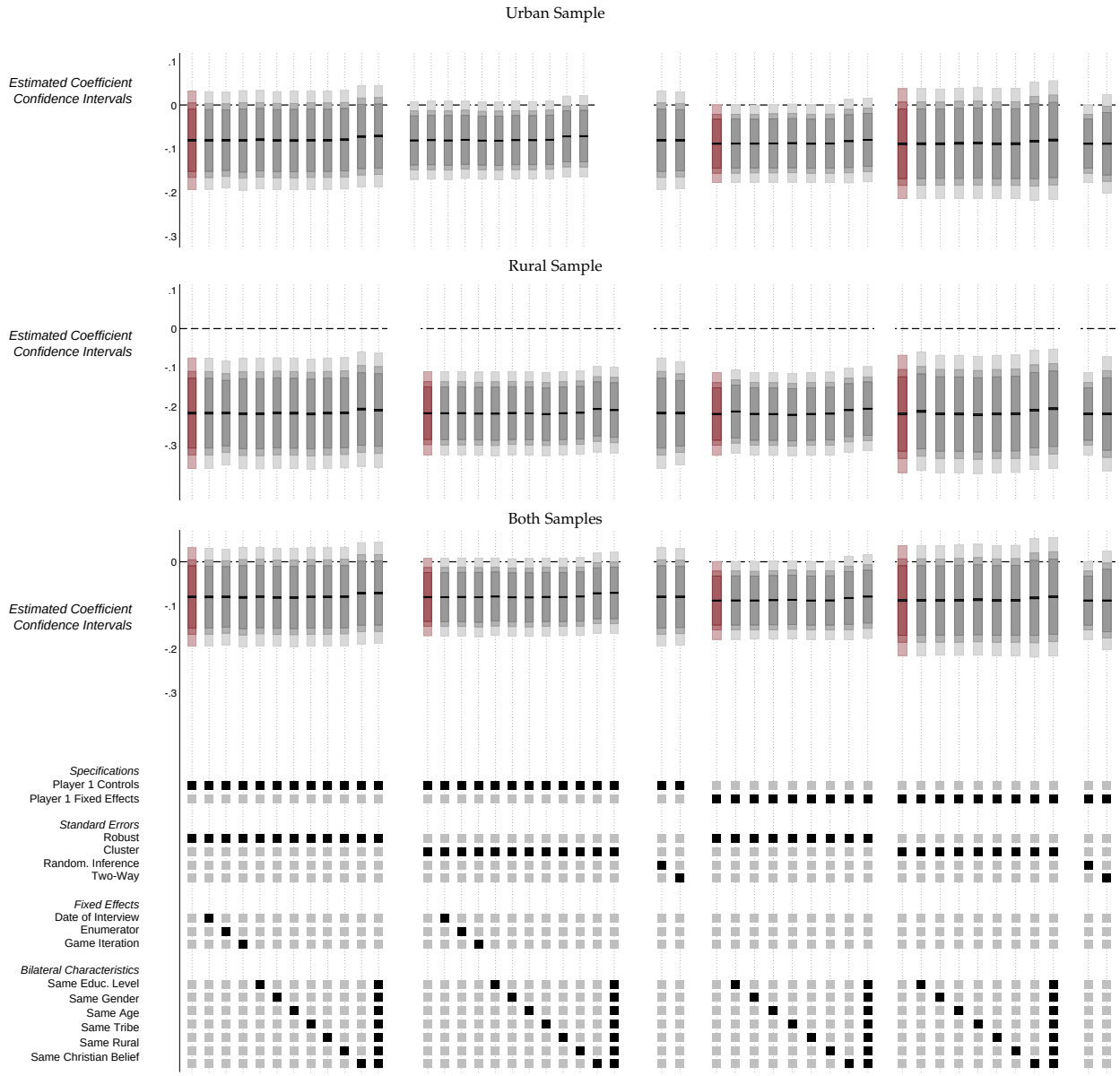
Notes: The figure shows the coefficients and standard errors for the effect of Player 2's Traditional Beliefs on the appropriateness to send CF 1,000 to a Player 2 that has strong traditional beliefs. Traditional Beliefs are measured with an indicator variable that equals 1 if an individual has strong 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 B6: Robustness: CYD Appropriate to Choose Player



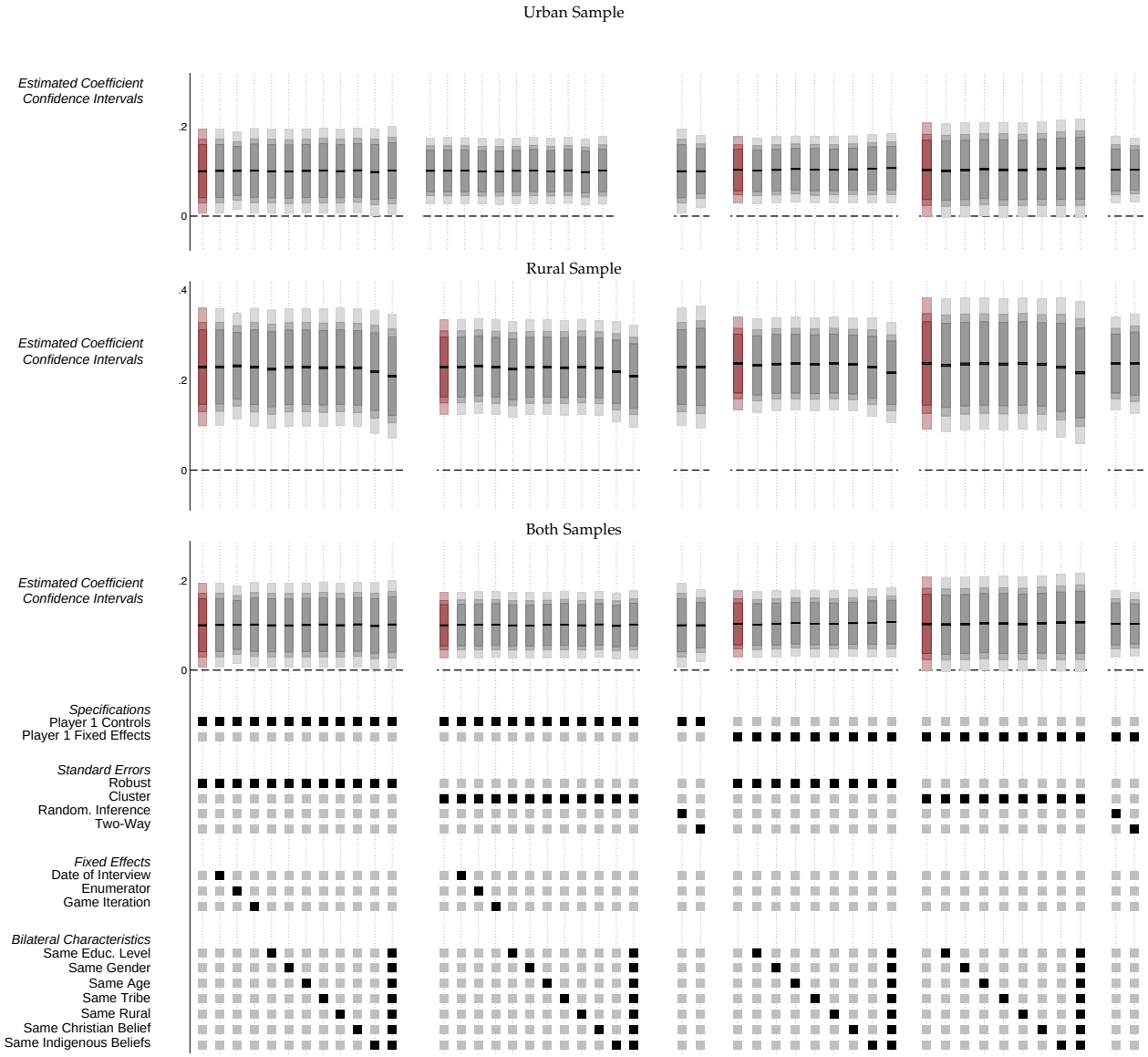
Notes: The figure shows the coefficients and standard errors for the effect of Player 2's Traditional Beliefs on the appropriateness to chose a Player 2 that has strong traditional beliefs in an anonymous chose your dictator game. Traditional Beliefs are measured with an indicator variable that equals 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 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 B7: Robustness: JOD Appropriate to Increase



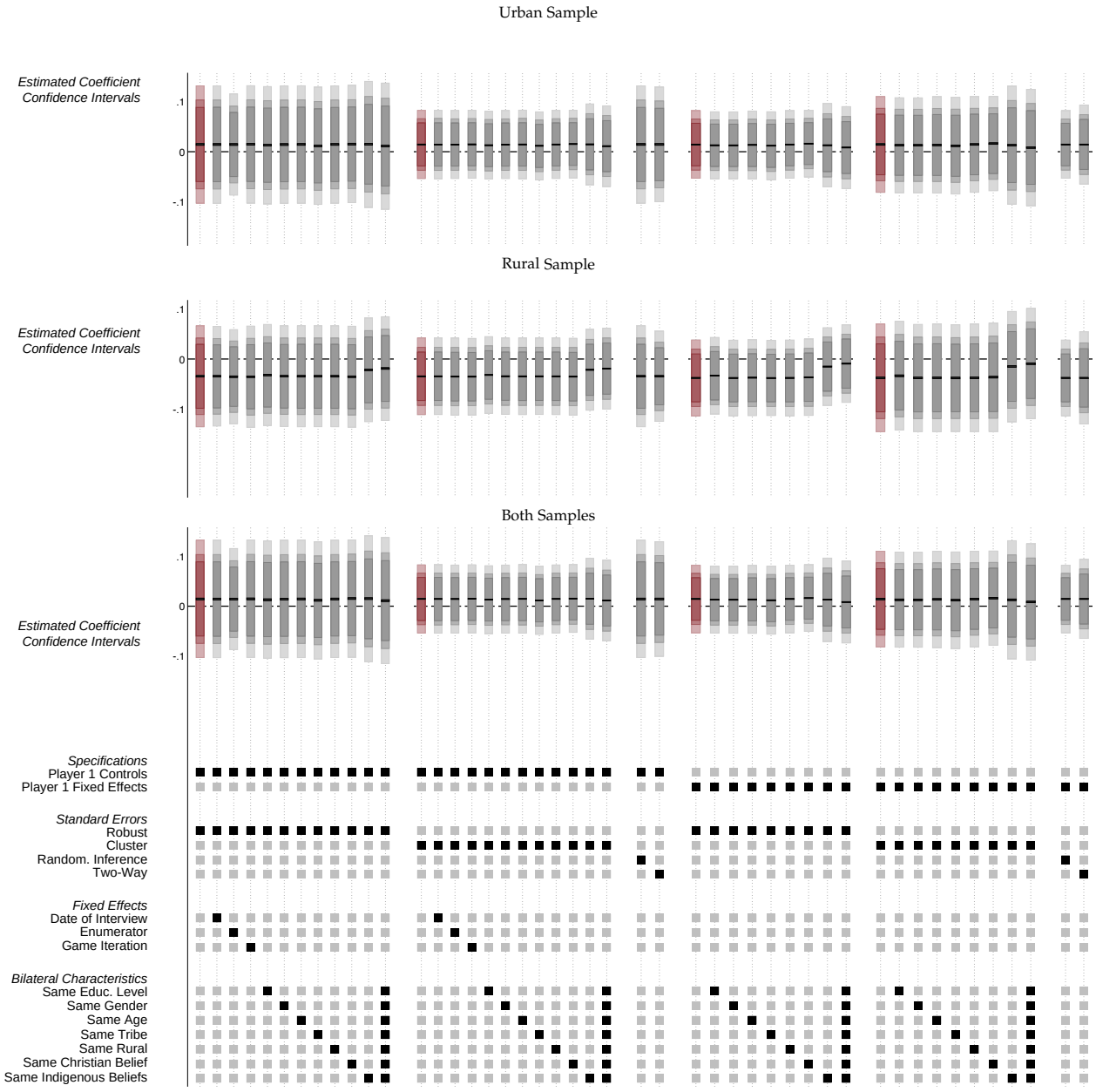
Notes: The figure shows the coefficients and standard errors for the effect of Player 2's Traditional Beliefs on the appropriateness to increase the endowment of Player 2 in an anonymous joy of destruction game. Traditional Beliefs are measured with an indicator variable that equals 1 if an individual 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 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 B8: 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 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 B9: 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 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.

B.4. Additional Sensitivity Checks for Social Norms Estimates

Table B5: 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: Urban 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: Rural 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	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192
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	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090
Respondents	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045
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: Robust standard errors in []. Standard errors clustered at the individual level in (). 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: 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. *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. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Table B6: 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	Y	Y
Observations	898	898	1192	1192	2090	2090
Respondents	449	449	596	596	1045	1045
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: Robust standard errors in []. Standard errors clustered at the individual level in (). 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. *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.
* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Table B7: 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	Y	Y
Observations	898	898	1192	1192	2090	2090
Respondents	449	449	596	596	1045	1045
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: Robust standard errors in []. Standard errors clustered at the individual level in (). 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. *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. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Table B8: 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	Y	Y
Observations	898	898	1192	1192	2090	2090
Respondents	449	449	596	596	1045	1045
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: Robust standard errors in []. Standard errors clustered at the individual level in (). 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. *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. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Table B9: 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
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: Robust standard errors in []. Standard errors clustered at the individual level in (). 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: 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. *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. * p < 0.1; ** p < 0.05; *** p < 0.01

Table B10: 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
Observations	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192
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: Robust standard errors in []. Standard errors clustered at the individual level in (). 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: 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. *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. * p < 0.1; ** p < 0.05; *** p < 0.01

Table B11: 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	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Observations	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090
Respondents	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045
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: Robust standard errors in []. Standard errors clustered at the individual level in (). 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: 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. *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. * p < 0.1; ** p < 0.05; *** p < 0.01

Table B12: 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	1796	1796	2384	2384	4180	4180
Respondents	449	449	596	596	1045	1045
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: Robust standard errors in []. Standard errors clustered at the individual level in (). 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: 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. *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. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Table B13: JOD Appropriate to [...]: Measuring Traditional Beliefs Using Indicator Variables for Each Category

	OLS, Dep. Var.: Appropriate to [...] the Endowment of other Player, 1-4																	
	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)
	Urban Sample						*Rural Sample*						*Both Samples*					
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	1192	1192	1192	1192	1192	1192	2090	2090	2090	2090	2090	2090
Respondents	449	449	449	449	449	449	596	596	596	596	596	596	1045	1045	1045	1045	1045	1045
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: Robust standard errors in []. Standard errors clustered at the individual level in (). 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: 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. *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. * p < 0.1; ** p < 0.05; *** p < 0.01

B.5. Heterogeneity: Social Norms Estimates

Table B14: 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 Pl. 1 & Pl. 2 Tradi. Beliefs:																						
Integer Measure, 1-4 × 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
	[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
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: Robust standard errors in []. Standard errors clustered at the individual level in (). 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: 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. *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. * p < 0.1; ** p < 0.05; *** p < 0.01

Table B15: 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 Pl. 1 & Pl. 2 Tradi. 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
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: Robust standard errors in []. Standard errors clustered at the individual level in (). 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: 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. *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. * p < 0.1; ** p < 0.05; *** p < 0.01

Table B16: 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 Pl. 1 & Pl. 2 Tradi. 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
Observations	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192
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: Robust standard errors in []. Standard errors clustered at the individual level in (). 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: 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. *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. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Table B17: 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 Pl. 1 & Pl. 2 Tradi. Beliefs:																						
Strong or Very Strong × 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
	[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
Observations	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192	1192
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: Robust standard errors in []. Standard errors clustered at the individual level in (). 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: 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. *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.
* p < 0.1; ** p < 0.05; *** p < 0.01

Table B18: 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 Pl. 1 & Pl. 2 Tradi. 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	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090
Respondents	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045
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: Robust standard errors in []. Standard errors clustered at the individual level in (). 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: 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. *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. * p < 0.1; ** p < 0.05; *** p < 0.01

Table B19: 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 Pl. 1 & Pl. 2 Tradi. Beliefs:																						
Strong or Very Strong × 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
	[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	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090	2090
Respondents	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045	1045
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: Robust standard errors in []. Standard errors clustered at the individual level in (). 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: 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. *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. * p < 0.1; ** p < 0.05; *** p < 0.01

Table B20: 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 Pl. 1 & Pl. 2 Tradi. 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	1796	1796	1796	1796	2384	2384	2384	2384	4180	4180	4180	4180
Respondents	449	449	449	449	596	596	596	596	1045	1045	1045	1045
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: Robust standard errors in []. Standard errors clustered at the individual level in (). 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: 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. *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. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Table B21: JOD Appropriate to Increase: Interaction Between Player 1's Traditional Beliefs and Player 2's Traditional Beliefs

	OLS, Dep. Var.: Appropriate to Increase the Endowment of other 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	-0.030	-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 Pl. 1 & Pl. 2 Tradi. 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	1192	1192	1192	1192	2090	2090	2090	2090
Respondents	449	449	449	449	596	596	596	596	1045	1045	1045	1045
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: Robust standard errors in []. Standard errors clustered at the individual level in (). 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: 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. *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. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Table B22: JOD Appropriate to do Nothing: Interaction Between Player 1's Traditional Beliefs and Player 2's Traditional Beliefs

	OLS, Dep. Var.: Appropriate to do Nothing to the Endowment of other 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	0.015	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 Pl. 1 & Pl. 2 Tradi. 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	1192	1192	1192	1192	2090	2090	2090	2090
Respondents	449	449	449	449	596	596	596	596	1045	1045	1045	1045
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: Robust standard errors in []. Standard errors clustered at the individual level in (). 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: 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. *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. * p < 0.1; ** p < 0.05; *** p < 0.01

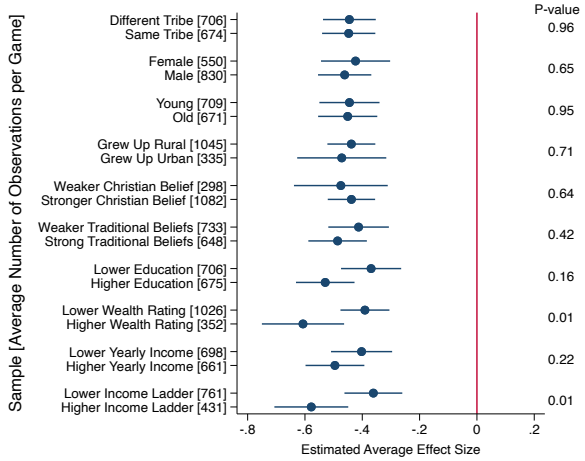
Table B23: JOD Appropriate to Decrease: Interaction Between Player 1's Traditional Beliefs and Player 2's Traditional Beliefs

	OLS, Dep. Var.: Appropriate to Decrease the Endowment of other 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	0.086	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 Pl. 1 & Pl. 2 Tradi. 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	1192	1192	1192	1192	2090	2090	2090	2090
Respondents	449	449	449	449	596	596	596	596	1045	1045	1045	1045
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

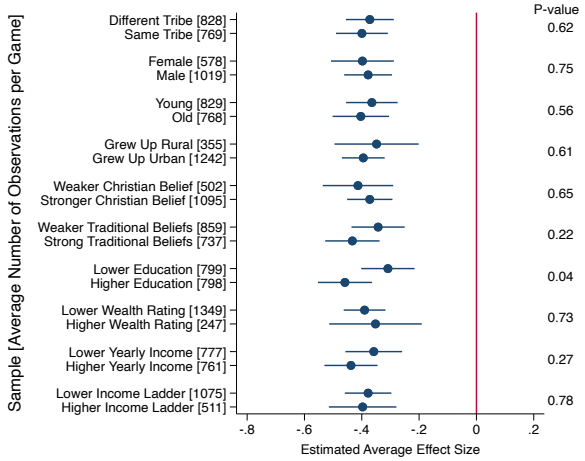
Notes: Robust standard errors in []. Standard errors clustered at the individual level in (). The data are stacked so that there are two observations per respondent for the two rounds of the JOD. All columns include fixed effects for Player 2 characteristics: sex, educational attainment, grew up in rural 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. *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. * p < 0.1; ** p < 0.05; *** p < 0.01

Figure B10: Heterogeneity of Estimates by Player 1 Characteristics: Urban, Rural, and Both Samples: Estimates with Player 1 Fixed Effects

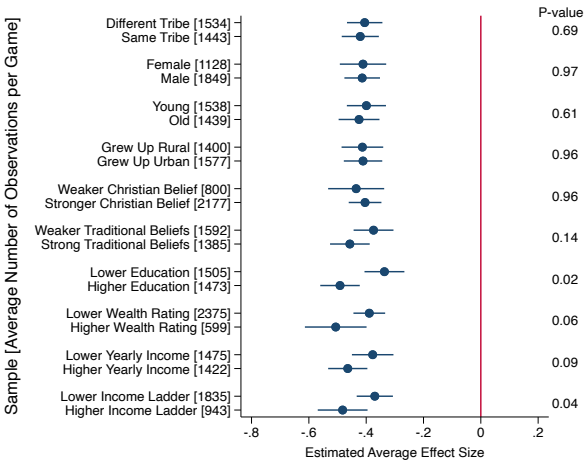
(a) Urban Sample



(b) Rural Sample



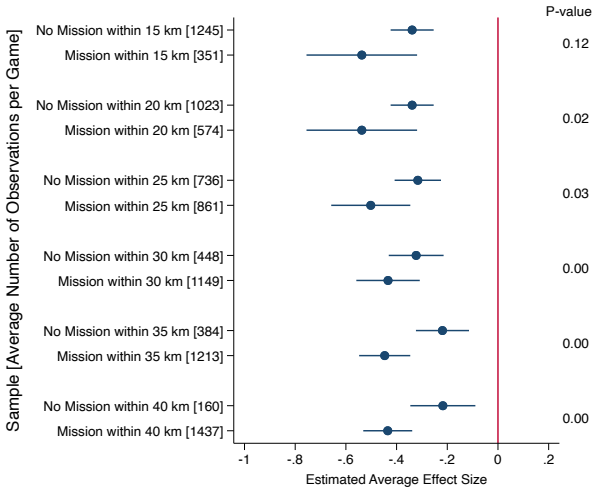
(c) Both Samples



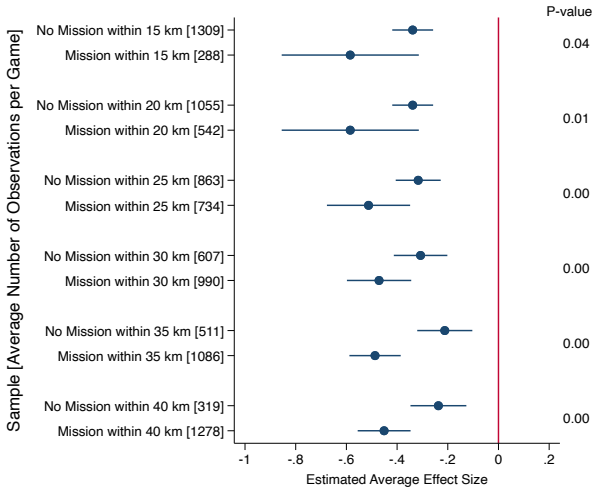
Notes: The figures are coefficient plots for the urban sample, rural sample, and both samples. The estimated specification is equation (2). We report the coefficient and 95% confidence intervals for the average effect size of Player 2's Traditional Beliefs. We partition the sample at the median value for continuous variables and at the value that creates the most even split for categorical variables. We report the coefficient for each subsample. The left y-axis labels specify the partitioned subsamples and the number of observations in each group. The right y-axis labels report the p-value for the null hypothesis that the estimates of the two samples are equal.

Figure B11: Heterogeneity of Estimates by Player 1's Exposure to Christian Missionaries for the Rural Sample: Estimates with Player 1 Fixed Effects

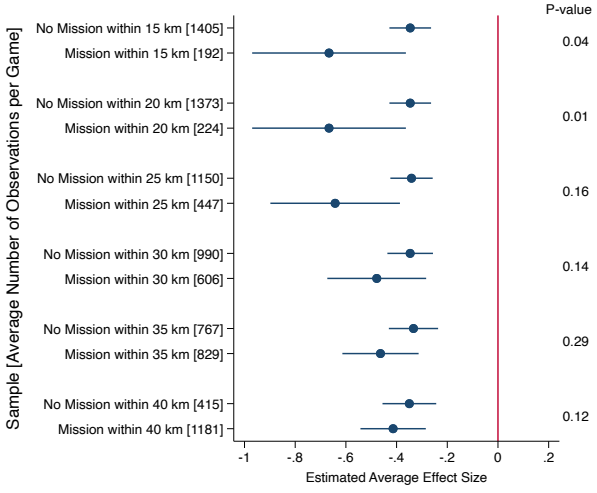
(a) Any Mission



(b) Catholic Mission



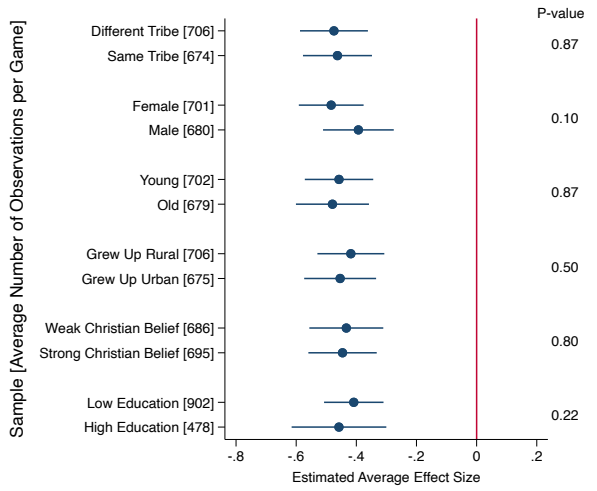
(c) Protestant Mission



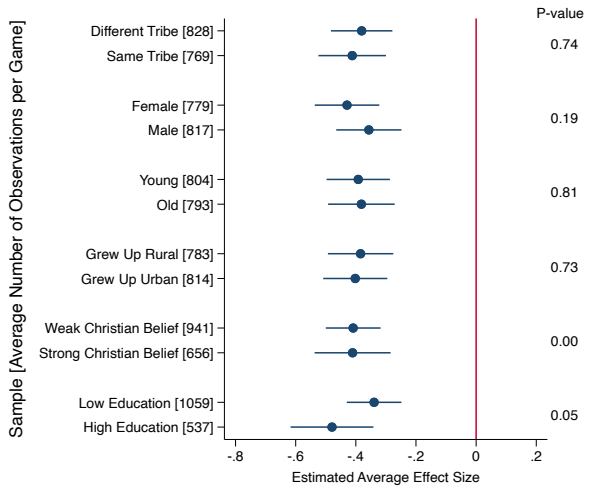
Notes: The figures are coefficient plots using the rural sample. The estimated specification is equation (2) but with standard errors clustered at the village level. We report the coefficient and 95% confidence intervals for the average effect size of Player 2's Traditional Beliefs for two samples: participants who live in villages that were close to a colonial foreign mission station and participants who live in villages that were far from a colonial foreign mission station. We report the coefficient using different definitions of near and far: 15, 20, 25, 30, 35, and 40 kilometers. The left y-axis labels specify the distance cut-off used to create the two samples and the number of observations in each group. The right y-axis labels report the p-value for the null hypothesis that the estimates of the two samples are equal.

Figure B12: Heterogeneity of Estimates by Player 2 Characteristics: Urban, Rural, and Both Samples: Estimates with Player 1 Fixed Effects

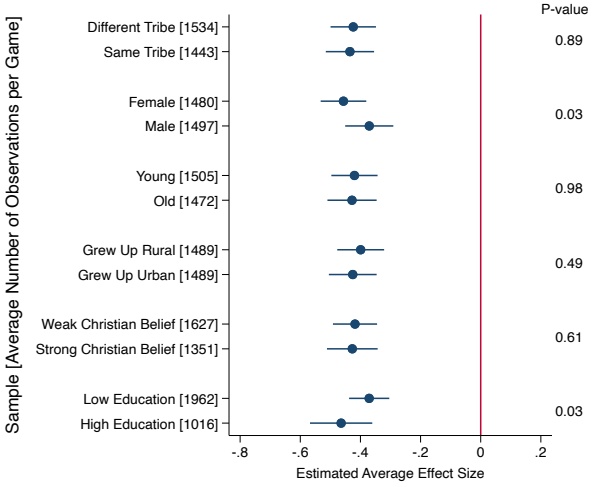
(a) Urban Sample



(b) Rural Sample



(c) Both Samples



Notes: The figures are coefficient plots for the urban sample, rural sample, and both samples. The estimated specification is equation (2). We report the coefficient and 95% confidence intervals for the average effect size of Player 2's Traditional Beliefs. 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 subsample. The left y-axis labels specify the partitioned subsamples and the number of observations in each group. The right y-axis labels report the p-value for the null hypothesis that the estimates of the two samples are equal.