NBER WORKING PAPER SERIES

TRADITIONAL SUPERNATURAL BELIEFS AND PROSOCIAL BEHAVIOR

Etienne Le Rossignol
Sara Lowes
Nathan Nunn

Working Paper 29695
http://www.nber.org/papers/w29695

NATIONAL BUREAU OF ECONOMIC RESEARCH
1050 Massachusetts Avenue
Cambridge, MA 02138
January 2022, Revised August 2022

We are grateful for valuable comments and feedback received from Ben Enke, Joseph Henrich, Karla Hoff, Kristin Laurin, Jordan Mubako, James Robinson, Jared Rubin, and Toni Schmader. We also thank Vafa Behnam, Aditi Chitkara, Romaine Loubes, Vibhu Pratyush, and Tanggang Yuan for excellent research assistance. The experiments were preregistered: AEARCTR-0003276 and AEARCTR-0004878. The project received IRB approval from Harvard University CUHS IRB19-2059. The views expressed herein are those of the authors and do not necessarily reflect the views of the National Bureau of Economic Research.

Traditional Supernatural Beliefs and Prosocial Behavior
Etienne Le Rossignol, Sara Lowes, and Nathan Nunn
NBER Working Paper No. 29695
January 2022, Revised August 2022
JEL No. O12,Z1,Z12,Z13

ABSTRACT

In most of Africa, traditional supernatural beliefs, including beliefs in witchcraft, black magic, or fetishism, are widespread and have remained so despite the spread of Christianity. The effects of these beliefs remain unclear. Some have hypothesized that these beliefs are beneficial and help to sustain cooperative behavior in a setting where the state is often absent. Others have documented that, inconsistent with this argument, such beliefs are negatively associated with economic and social wellbeing. We contribute to a better understanding of the causal effects of traditional supernatural beliefs by using lab-in-the-field experiments in the Democratic Republic of the Congo. Participants complete a range of experimental tasks where one player chooses whether to act in a prosocial manner towards another player. Participants are randomly assigned to another player that has either strong or weak traditional supernatural beliefs, and this information is known by the players. We find that participants act less prosocially towards randomly-assigned partners who have stronger traditional beliefs. We find that antisocial behavior is viewed as being more acceptable when it is directed towards those with stronger traditional beliefs. Consistent with both of these effects, we also find that individuals hold a wide range of negative perceptions and stereotypes about those holding strong traditional beliefs.

Etienne Le Rossignol
Centre d'Economie de la Sorbonne
Paris
France
etienne.le-rossignol@univ-paris1.fr

Sara Lowes
Department of Economics
University of California at San Diego
9500 Gilman Drive
La Jolla, CA 92093
and NBER
slowes@ucsd.edu

Nathan Nunn
Vancouver School of Economics
University of British Columbia
6000 Iona Drive
Vancouver, BC V6T 2E8
Canada
and NBER
nathan.nunn@ubc.ca

1. Introduction

A belief in the supernatural is present in nearly all societies. Such beliefs range from monotheistic religions that feature a moralizing high God to less centralized religious beliefs that involve ancestral spirits and related magical beliefs. There is accumulating evidence that monotheistic religions – namely, those with a moralizing "Big God" like Christianity and Islam – have important positive effects on the level of cooperation in a society (Norenzayan, 2013, Norenzayan, Shariff, Gervais, Willard, McNamara, Slingerland and Henrich, 2016). In contrast, despite being widespread and pervasive in the daily life of much of the world, we still have limited evidence of the causal effects of less centralized religious beliefs that involve ancestral powers, fetishes, amulets, diviners, and sorcery.

Within sub-Saharan Africa, traditional supernatural beliefs, which are commonly referred to as "witchcraft" beliefs, remain widespread. A 2010 PEW survey of approximately 25,000 respondents from 19 sub-Saharan African countries finds that 45.6% of respondents report believing in witchcraft. Similarly, 42.4% of respondents report using traditional religious healers. Such beliefs co-exist with the Big God religions. In the same survey, 96 percent of respondents report being either Christian or Muslim. Supernatural 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). 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."

The existing evidence for the causal effects of traditional supernatural beliefs, which is based on cross-sectional correlations, shows that within sub-Saharan Africa witchcraft is associated with less trust (Gershman, 2016). However, there is concern that the correlations are driven by selection and unobserved heterogeneity. For example, if individuals who are in economically dire circumstances or who have experienced adverse shocks are more likely to turn to traditional supernatural beliefs and practices, then this would induce a negative correlation between witchcraft and better social outcomes. In addition, previous studies have found that, within Africa, the slave trade is associated with more distrust (Nunn and Wantchekon, 2011) and with a stronger belief in witchcraft (Gershman, 2020); thus, the slave trade may confound these correlations.

These correlations stand in stark contrast to functional arguments for the prevalence of traditional beliefs that assume that they must have benefits. 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. If individuals believe that bad behavior might be identified and punished through the use of supernatural forces, then the presence of witchcraft might induce more cooperative or prosocial behavior (Niehaus, 2001, Johnson and Kruger, 2004, Platteau, 2009, Hadnes and Schumacher, 2012). Therefore, similar to how Big God religions have been found to induce good behavior (Norenzayan, 2013), traditional supernatural beliefs may do the same. Big God religions incentivize cooperation through assignment to heaven or hell after death, while traditional supernatural beliefs may incentivize cooperation through the threat of harm by supernatural means.[1] Consistent with this possibility, Gershman (2022) finds that countries with weaker legal institutions tend to have stronger beliefs in witchcraft.

This study aims to shed light on these issues by providing estimates of the causal effects of traditional supernatural beliefs using lab-in-the-field experiments implemented in the north of the Democratic Republic of the Congo (DRC), a country in which these beliefs are commonplace. While we are not able to randomize the presence or absence of traditional supernatural beliefs among participants in our sample, we are able to randomize the presence or absence of the beliefs of the person that a participant is paired with in experimental tasks. This is done by randomly matching a participant in the behavioral game with another player, while providing some information about that other player: their age group, sex, education level, whether they are coethnic, strength of belief in the Christian God, strength of belief in traditional supernatural forces, and whether they grew up in a rural area. The term used for belief in the supernatural is "*bokoko*," which is the word used in Lingala that captures a bundle of traditional beliefs, including belief in witchcraft, sorcery, and ancestors.[2] Our interest is in better understanding how individuals who are known to hold stronger traditional supernatural beliefs are perceived and treated by other players.

The sample comprises 1,120 individuals in the north of the DRC: 520 individuals from a local urban center and 600 individuals from 50 rural villages. As is common in sub-Saharan Africa, we find that the population reports believing strongly in both witchcraft and in Christianity. As in much of sub-Saharan Africa, our sample believes in Christianity while also continuing to hold

[1] This explanation is often called the 'Supernatural Punishment Hypothesis.' For proponents of the hypothesis, see Johnson and Kruger (2004), Johnson and Bering (2006), Schloss and Murray (2011), and Jones (2016).

[2] Both players are given the same information about the other player. The fact that both players are given this information is known to all players.

traditional supernatural beliefs.

To examine how those with strong traditional beliefs are treated, we implement three lab-in-the-field experiments: 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, each time with a different randomly-chosen other player. In the DG, player 1 chooses how much of an endowment of 1000 Congolese Francs (CF) to allocate to player 2. This amount is equal to about half a day's average wage. This is generally considered a measure of altruism. In the CYD game, a player chooses a person to play the role of player 1 in the DG. The other player 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 2000 (which is equal to approximately 2 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 1000; (3) Pay CF 200 to increase the other player's endowment by CF 1000. The JOD measures spitefulness toward the other player.

We randomly assign participants to complete lab experiments with other players who have different strengths of supernatural beliefs (*bokoko*) and examine whether the participants behave in a more or less cooperative and prosocial manner when playing against those who believe more strongly in witchcraft. We find our participants choose less prosocial actions in the games when paired with a player 2 with a stronger belief in witchcraft. If player 2 believes more strongly in witchcraft, they 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.

Our finding of more antisocial behavior and less prosocial behavior towards a player if they have stronger traditional beliefs is surprisingly 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, traditional beliefs are associated with more antisocial behavior. In addition, we find that all estimates but one (the dictator game in the rural sample) are statistically significant.[3] The effect is not dependent on any of the characteristics of player 1, including their own traditional beliefs. We find more

[3] 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.

antisocial behavior and less prosocial behavior towards those who hold traditional beliefs even when player 1's own beliefs are strongly traditional.

We next examine the norms that might underlie such 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 to choose the most common response chosen by others for how acceptable an action is in a game. Participants are paid 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. 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). Again, we assign the participant to a player with randomly assigned characteristics, and we stratify based on the other player's strength of traditional beliefs.

Our social norm findings align with our findings from the behavioral games. In the DG, if player 2 believes more strongly in witchcraft, then it is perceived as more socially acceptable to give smaller allocations and less socially acceptable to give larger allocations to player 2. In the CYD, it is viewed as more socially acceptable to not choose the individual with a strong traditional beliefs 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 beliefs. Increasing the payoff of player 2 is less socially acceptable if they believe more strongly in witchcraft. Doing nothing is viewed as being equally acceptable regardless of player 2's traditional supernatural beliefs.

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 supernatural 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 exploit this to measure what traits participants associate with a particular individual. We use

this to measure the strength of associations between various positive and negative traits and 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. Consistent with this, we also find that individuals who hold traditional beliefs are less likely to be associated with positive traits like honesty, benevolence, generosity, a good temperament, and being socially included.

For all three of our measures – behaviors, social norms, and perceptions – we check for heterogeneous effects. In particular, how participants perceive or treats others who hold traditional beliefs may be affected by their own strength of traditional beliefs. Across all three sets of measures, the evidence indicates the effects we find are similarly strong for those who hold strong traditional beliefs. Thus, individuals who themselves have 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, this finding is 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).

Our study provides causal evidence of the effects of traditional supernatural beliefs. Our findings show that a person's traditional beliefs affect how they are perceived and treated by others, as well as the extent to which such behavior is viewed as socially acceptable. These findings complement existing observational studies that examine the likely effects of traditional belief systems such as witchcraft or the evil eye (Gershman, 2021). Gershman (2016) documents a negative relationship between beliefs in witchcraft and trust within regions of Africa and globally. Gershman (2022) extends the analysis and examines a broader set of correlates with an enlarged sample. He confirms that witchcraft is associated with disrupted social relations, less happiness, more anxiety, greater pessimism, less innovation and entrepreneurial activity, and lower incomes. While these conditional correlations are extremely informative given the dearth of empirical evidence, they stop short of providing evidence of the causal effects of traditional beliefs.

Prior evidence can also be gleaned from Hadnes and Schumacher's (2012) study of traditional beliefs in Ouagadougou, Burkina Faso. The authors find that when participants partook in focus groups that discussed issues related to jealousy, moral behavior, and traditional religion, they

were more prosocial in a trust game that followed. While indirect, their findings are consistent with traditional religion enforcing prosocial behavior.[4] Also supportive of such an effect is the study by Alidou and Verpoorten (2019), which found that among West African ethnic groups with the 'voodoo' belief that women who have gone through menopause have supernatural powers, post-menopause women have more autonomy and higher BMI; no such effect is found for West African groups without this belief. A different picture emerges from the study by Mace, Thomas, Wu, He, Ji and Tao (2018) of a farming community in China where certain individuals, who are labeled as *zhu*, are believed to have supernatural abilities. The authors find no evidence of greater prosocial behavior associated with *zhu* households. Instead, the *zhu* are actually less socially connected to non-*zhu* households, receive less farm help, and receive less money in a dictator game.

We also contribute to existing theoretical, case study, and observational analyses of the consequences of supernatural beliefs. Examples include Leeson's (2014) study of the use of oracles in conflict dispute resolution, Stoop, Verpoorten and Deconinck's (2019) analysis of the effects of traditional 'voodoo' beliefs on the demand for Western healthcare in Benin, Alonso, Houssa and Verpoorten's (2016) study of these same beliefs on local fisheries management, or Nunn and Sanchez de la Sierra's (2017) analysis of magical bulletproofing beliefs in contemporary Eastern Democratic Republic of the Congo.

Our results complement the extensive literature examining the effects of beliefs in a monotheistic Big God religions.[5] In contrast to this literature, our interest is in understanding the consequences of smaller-scale indigenous religious belief systems. In addition, we are also interested in the social consequences of the beliefs. Therefore, rather than studying how an individual's beliefs affect how they treat others, our analysis studies how an individual's beliefs affect how others treat them.

Our findings are also related to existing 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 et al., 2016, Halla, Liu and Liu, 2019) in developing

[4] Other subsequent studies that also examine the effects of different types of priming tend to find mixed results. See for example, McNamara and Henrich's (2018) study of Yasaw Island, Fiji, which found that traditional belief primes increased prosociality among those in the local community.

[5] See for example Barro and McCleary (2003), Becker and Woessmann (2009), Norenzayan (2013), Campante and Yanagizawa-Drott (2015), Benjamin, Choi and Fisher (2001), Platteau (2017), Rubin (2017), Xygalatas, Kotherova, Mano, Kundt, Cigan, Klocova and Lang (2018), Auriol, Lassébie, Panin, Raiber and Seabright (2020), Bryan, Choi and Karlan (2021), Auriol, Delissaint, Fourati, Miquel-Florensa and Seabright (2021), Caicedo, Dohmen and Pondorfer (2021).

country contexts. They also complement empirical studies that examine the determinants of witchcraft rather than its consequences, either historically (Oster, 2004, Leeson and Russ, 2018) or in contemporary settings (Miguel, 2005, Gershman, 2020, Stoop and Verpoorten, 2020). They also relate to a large literature in anthropology examining the social function of witchcraft in sub-Saharan Africa (e.g. Krige, 1947, Gluckman, 1955, Evans-Pritchard, 1976, Geschiere, 1997, Douglas, 2004).

Our findings raise a number of additional questions that we view as important avenues for future research. The natural next question is why the beliefs of our setting persist given their adverse consequences. One possibility is there are other benefits outside of our experimental setup. For example, traditional beliefs may have psychological benefits such as reduced anxiety or depression and improved mental health (Malinowski, 1975, Sosis and Handwerker, 1988, Vyse, 2014, Krige, 1947). It is also possible that traditional supernatural beliefs have political benefits, providing a source of legitimacy and authority for local chiefs, which allow them to better settle arguments and resolve disputes within villages (Leeson, 2012, 2014, Geschiere, 1997, MacGaffey, 2000). Another possibility is that traditional beliefs are an example of cultural mismatch. That is, they were beneficial in the past but they are no longer beneficial today. The antisocial behavior induced by traditional beliefs could be due to the spread of Christianity, particularly of born-again religions that recognize but vilify traditional supernatural beliefs in their teachings.

The following section describes the setting in which the experiment is implemented. Section 3 describes the experimental design. Section 4 examines how those with traditional beliefs are treated. Section 5 examines how traditional beliefs affect social norms, i.e. beliefs about what behavior is socially acceptable. Section 6 explores perceptions and stereotypes of those that hold traditional beliefs. Section 7 provides a discussion of the importance and implications of the findings, and Section 8 concludes.

2. Traditional Supernatural Beliefs in Africa and the DRC

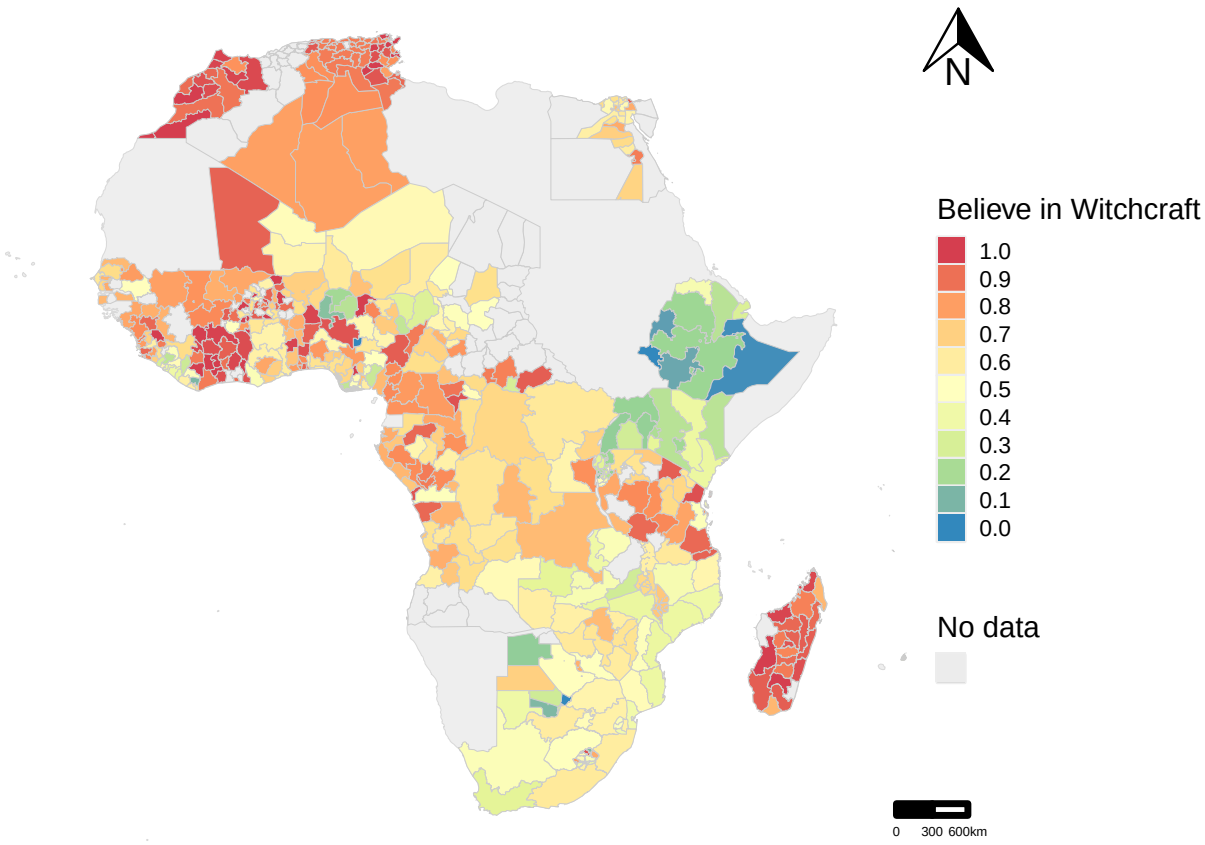
The traditional religious belief systems in the DRC share many of the features of traditional beliefs globally. The belief system includes belief in supernatural forces and ancestral spirits. There are individuals who can cast spells, provide supernatural protection, and see into the future – e.g., witchdoctors, sorcerers, diviners, etc. Magical power can be embodied in objects like amulets or fetishes (Singh, 2021). Many of these features are also characteristics of more-organized

Big God religions, like Christianity and Islam. However, in contrast to Christianity and Islam, there is no moral judgement by gods or spirits and no assignment to heaven or hell. Thus, unlike Christianity or Islam, there is no moralizing high God. Because these non-high God supernatural beliefs appear to be historically ubiquitous (Singh, 2021), we refer to them in the paper as "traditional supernatural beliefs." In the surveys and experiments, the relevant term that we use is a participant's belief in *bokoko*, which is the Lingala word that refers to the set of traditional beliefs that includes belief in the supernatural, witchcraft, ancestors, and sorcery.

Despite the widespread adoption of Christianity in our region of study, traditional 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 'witchcraft' 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 1, 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 that believes in witchcraft is above 50%, and a number of regions have shares that are in excess of 90%. According to these data, the region in which our study takes place has 70–80% of respondents believing in witchcraft, which is broadly consistent with our findings.

The Gallup survey asks a subsample of 18,000 respondents the main reason for going to see a witch doctor. The most common reasons listed are: to cure an illness or disease (22.9%), to place a spell on someone (19.3%), to become rich/find a job (19.1%), to cure a spell placed on them by a witch (13.8%), to inflict pain on someone (12.2%), to find a husband/wife (2.2%), and to have children (2.0%). 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. This is consistent with the hypothesis that witchcraft provides a threat of supernatural punishment, which can support cooperative or prosocial behavior, especially when the state is absent (Platteau, 2009).

Figure 1: Belief in Witchcraft 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).

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 defend against the spells of others and to hurt 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 prosocial behavior, we asked participants if they thought that witchcraft is an effective means of harming others. The most common response is that it is 'very effective,' and 79% of the sample believe that witchcraft is either 'somewhat effective' or 'very effective.'

At the end of our survey, we ask respondents an open-ended question about beliefs in witchcraft and how witchcraft is used. The most common reasons that are reported for individuals using witchcraft is: to harm others, defend against harm from others, or to be more successful. Examples of responses that indicate it is used to harm others include: "Witchcraft has several uses, either to harm or to destroy or to impede the progress of others"; "to be successful and to harm"; "to protect themselves and to destroy the others"; "to harm others, throw bad spells at others, to kill the people and to eat them at night." The following are examples of responses that describe its use to provide protection from others: "to protect themselves, to have hidden wealth, domination, to have better grades"; "for their protection, but also to harm others"; "it is a power that helps according to the usage: protection, sanction or to procure happiness." In general, the responses suggest that witchcraft is taken seriously and believed to be an active and relevant force.

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 ("rural sample").[6]

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

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.

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, Ngwandi, 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.[7] 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.

[7] Of the 733 people 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 of very strong belief in the Christian God, and 10 declined to participate.

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 respondent gender so that for each village we had about half women and half men. Respondents received CF 2,000 for completion of the surveys in addition to the amounts received in the lab experiments. For maps of the sampled areas see Appendix Figures A2 and A3. [8]

3.3. *Experimental Design*

As part of the initial survey described above we asked individuals how strongly held their traditional supernatural 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 witchcraft 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

[8] 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. Additionally, there was no screening for the rural sample, and the values of the Christian God were allowed to fully vary from very weak belief to very strong belief. 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.

varies from very weak belief to very strong belief in the rural sample; their strength of traditional beliefs is weak or very weak, neither believe nor disbelieve, strong, or very strong; and whether they grew up a rural area or not.

In Appendix Table A2, we present estimates of the relationship between respondent characteristics and strength of their traditional supernatural 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 belief more strongly in Christianity. While this, at first, may appear surprising, it is important to note that churches in the region, particularly Evangelical and Born Again churches, often integrate traditional supernatural 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 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 believe nor disbelieve.' The other characteristics of the other player are also randomly assigned, although we do not stratify on those characteristics.[9]

4. Behavior Towards those with Strong Traditional 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 use three different games to elicit measures of this: the Dictator Game (DG), Choose Your Dictator Game (CYD), and Joy of Destruction Game (JOD). In each game, two rounds are played, each time with a different player, one of whom has strong traditional beliefs

[9] Payouts and matching were done using a much larger random 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.

and one of whom has weak traditional beliefs. We now turn to a detailed description of each of the three games.

The first activity is a version of the standard dictator game (DG). A participant (the dictator) is given CF 1,000 (in the form of ten CF 100 bills) to allocate between themselves and another player. The participant is told that they will not know the exact identity of the other player, but they will have several pieces of information about the other player. 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 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.[10] We report estimates separately for the rural sample, the urban sample, as well as for a pooled sample.

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). All pre-specified analyses and robustness tests are either in the paper or in 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), and 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 belief in witchcraft: an integer scale that ranges from 1 to 4 and an indicator variable that equals one if the participant believes strongly or very strongly in witchcraft.

For the urban sample, we find that a one unit increase in a player 2's strength of traditional supernatural beliefs is associated with a CF 12 decline in the amount allocated to that player;

[10] 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 is reported in Appendix Section A.4 to conserve space.

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 to 12 present the analysis where we pool both samples and include a sample fixed effect. We find that player 2's 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 a stronger belief in witchcraft 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, they choose the amount of 1000 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 beliefs in witchcraft 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 witchcraft beliefs is associated with a decrease in the probability of being chosen by 14 percentage points for the urban and rural sample (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 estimated 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.

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

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. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

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. 52% of the urban sample and 52% of the rural sample choose to do nothing. However, 32% of the urban sample and 28% of the rural sample choose to increase the endowment of the other player. 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 supernatural 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 using OLS – where the outcome is equal to 1 if that action was chosen (see Appendix Tables A7-A9). 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 a strong or very strong belief in witchcraft in the urban sample and 4 percentage points less likely to increase their endowment in the rural sample (see Table A7). 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 Table A8). The other player's traditional beliefs have no effect on choosing to do nothing in the JOD (see Table A9).

Robustness and Sensitivity Checks

In Appendix Figures A6–A8, we report all robustness tests that were pre-specified in our pre-analysis plans (Lowes and Nunn, 2018, 2019). We present estimates for each game with: player 1 controls; player 1 fixed effects; robust standard errors, standard errors clustered at the individual level, two-way clustered standard errors by player types, and randomization inference; game

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. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

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 A3–A5), the CYD results with a logit specification (Appendix Table A6), and the JOD estimates looking separately at each action: increase, decrease or do nothing (Appendix Tables A7–A9).

Heterogeneity of Effects

The last set of analyses that we undertake is to explore heterogeneity in the effect that player 2's traditional beliefs have on the actions of player 1. The first factor that we examine are player 1's own traditional supernatural beliefs. It is possible that if the participant has strong traditional beliefs then they are less likely to treat the other player less prosocially when the the other player has stronger traditional beliefs. To test for this, we include in our specifications an interaction between the traditional beliefs of player 1 and player 2.

The estimates are summarized in Table 4. Each entry reports the coefficient and standard error for the interaction term from one regression. We present the full tables reporting the coefficients for player 1 beliefs, player 2 beliefs, and the interaction in Appendix Tables A10–A12. The estimates reported in Panel A, which are for the DG, show no evidence of an interaction between player 1 and player 2 beliefs. In Panel B, we present the results for the CYD. We find some evidence in the rural sample that those with strong traditional beliefs are actually less likely to choose another player with strong traditional beliefs. However, this same pattern is not found in either the urban sample or the pooled sample. Finally, in Panel C, which examines behavior in the JOD game, we find evidence that those with strong traditional beliefs are slightly more prosocial towards those with strong traditional beliefs in the JOD. However, these effects are only marginally significant in the urban or rural samples, although they do gain significance in the pooled sample. In addition, the direction of this interaction effect is opposite of the interaction effect found in the rural sample of the CYD.

In all, we find no evidence that the beliefs of player 1 have a consistent effect on how player 2's beliefs affect player 1's behavior. While some interactions are significant in some specifications, the estimated signs are not consistent. Thus, taken as a whole, the estimates do not show that if player 1 has strong traditional beliefs, they tend to be relatively less antisocial towards

player 2s who hold traditional beliefs. Instead, the evidence seems to indicate that a player 1 who themselves hold strong traditional beliefs also tend to treat a player 2 who holds strong traditional beliefs less prosocially. While, perhaps surprising, the finding is consistent with recent experimental findings from India showing that low caste individuals are treated less prosocially than high caste individuals and that this is also true for low caste decision-makers. In other words, low caste individuals do not exhibit in-group favoritism (Hoff et al., 2011). This is also what we find in our setting but for individuals who hold traditional supernatural beliefs.

The second factor that we examine is the prevalence of Christian beliefs. Given the near universal belief in Christianity in our urban sample, the analysis focuses on the rural sample. We use village-level measures of exposure to Christianity. These include: number of churches in the village by denomination (Protestant, Catholic, and Pentecostal), the earliest that a church of each denomination was present in the village, whether missionaries were present in the village in the past, and distance to closest historical Catholic or Protestant mission station. In addition to examining these separately, we also aggregate the measures using principal components analysis.

We then estimate our baseline equation allowing for the effect of player 2's traditional beliefs to vary depending on the village-level measure of exposure to Christianity of player 1. This is done by including an interaction between these two measures. The estimates for the interaction terms are summarized in Appendix Table A13. We find no evidence that village-level exposure to Christian beliefs affects the extent to which player 2's traditional beliefs affects behavior towards them. The vast majority of interaction coefficient are statistically insignificant. In addition, the coefficients tend to be small and they vary in sign with about half being positive and half negative. Thus, there is no evidence that those with more exposure to Christianity behave more poorly towards those who hold traditional beliefs.

5. Social Norms Towards those with Strong Traditional 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). Second, we expect these measures to be less prone to experimenter demand effects. Participants do not

Table 4: Interaction Between the Traditional Beliefs of Player 1 and Player 2

	Estimates with Interaction Between Player 1 & Player 2 Traditional Beliefs											
	Urban Sample				*Rural Sample*				*Both Samples*			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Panel A: OLS, Dep. Var.: Amount Sent to Other Player (in CF)											
Integer Measure, 1-4	0.691	-2.723			3.911	4.427			2.605	1.249		
× Integer Measure, 1-4	[4.428]	[3.093]			[4.764]	[3.500]			[3.238]	[2.351]		
	(3.219)	(4.376)			(3.630)	(4.951)			(2.418)	(3.325)		
Strong or Very Strong			-21.585	-25.189			26.539	28.926			6.246	3.773
× Strong or Very Strong			[25.271]	[17.333]			[27.584]	[20.177]			[18.764]	[13.419]
			(17.238)	(24.524)			(20.214)	(28.547)			(13.404)	(18.982)
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
	Panel B: OLS, Dep. Var.: Chose Player as Dictator											
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)
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
	Panel C: OLS: Dep. Var.: Choice in JOD											
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)*
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
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

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). *Chose Player as Dictator* is an indicator variable equal to 1 if this player was selected. *Choice in JOD* takes the value of -1 if Player 1 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

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, 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 correct. 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 supernatural 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 the socially appropriate action 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 1000 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 this 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 believes strongly in witchcraft or not.

Specifically, the equations take the following form:

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

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 belief in the supernatural 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:

$$\begin{aligned} Appropriate_{ij}^{k} &= \alpha_i + \alpha_{a(j)} + \alpha_{g(j)} + \alpha_{e(j)} + \alpha_{v(j)} + \alpha_{b(j)} + \alpha_{c(ij)} \\ &\quad + \beta\, TraditionalBeliefs_j + \varepsilon_{ij}, \end{aligned} \tag{4}$$

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

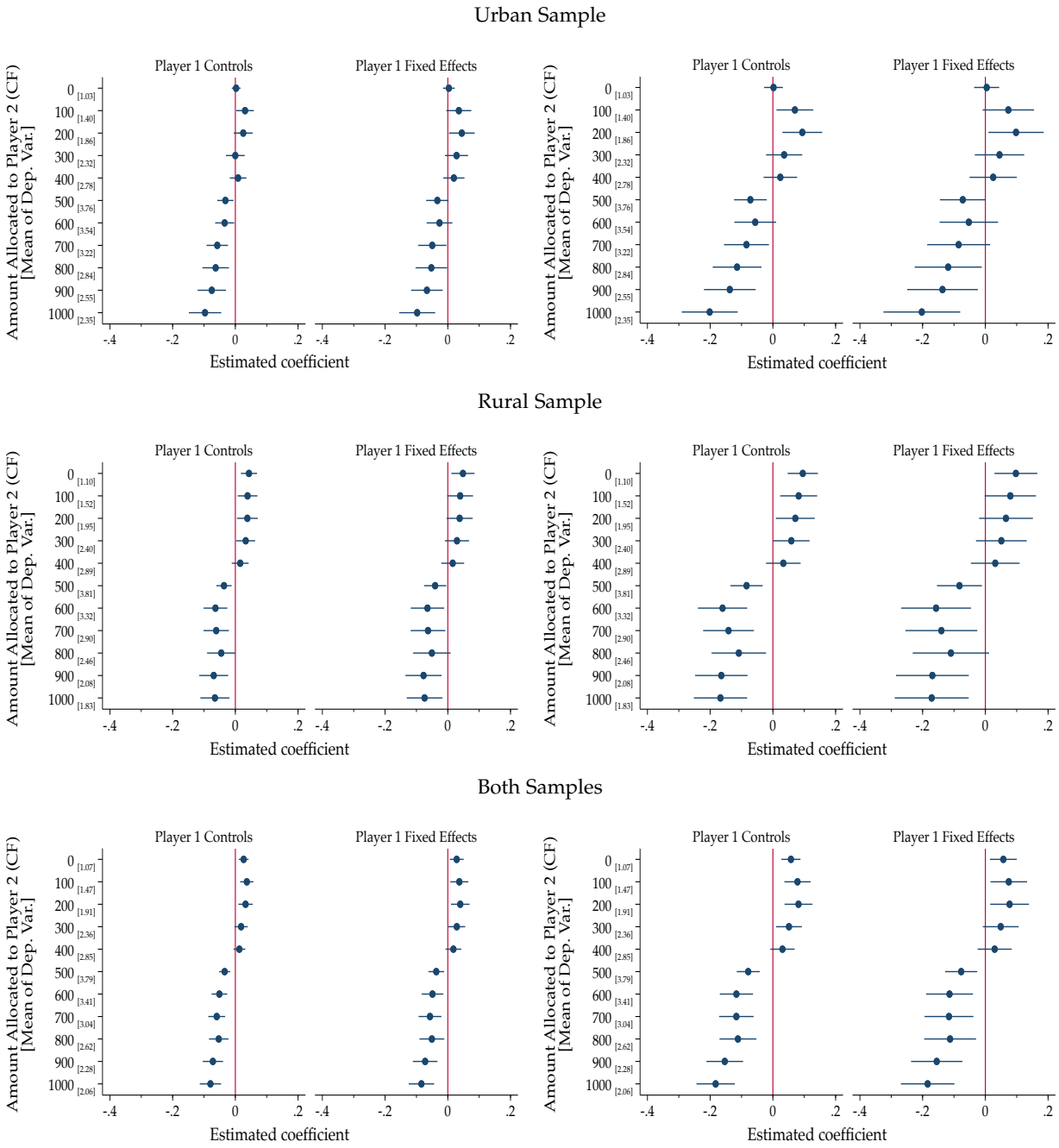
We first consider the dictator game. The coefficients of interest are summarized in Figure 2 and the full estimates are reported in Appendix Table A14. We present the estimated coefficient (and 95% confidence intervals) for the 1-4 integer measure of player 2's strength of traditional beliefs (Figure 2a) and for the strong or very strong indicator measure of player 2's strength of traditional belief (Figure 2b). In the top, middle, and bottom graphs, we report the results for the urban, rural, and pooled 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 supernatural 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 who believes in witchcraft more strongly is more socially acceptable than to someone who believes less strongly in witchcraft. For the zero allocation, the overwhelming belief is that it is not acceptable to give nothing to the other player whether or not they believe in witchcraft – 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 5. 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 beliefs in witchcraft – 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 3, with the full estimates reported in Appendix Tables A15–A17. For each game, there are three potential choices: decrease the other

Figure 2: 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 1000 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 a weak traditional beliefs, (2) neither weak nor strong traditional beliefs, (3) strong traditional beliefs, (4) very strong traditional beliefs.

Table 5: 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. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

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, Sensitivity, and Heterogeneity

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 bilateral characteristics between player 1 and player 2 (Appendix Figures A9–A14). 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 A18–A22).

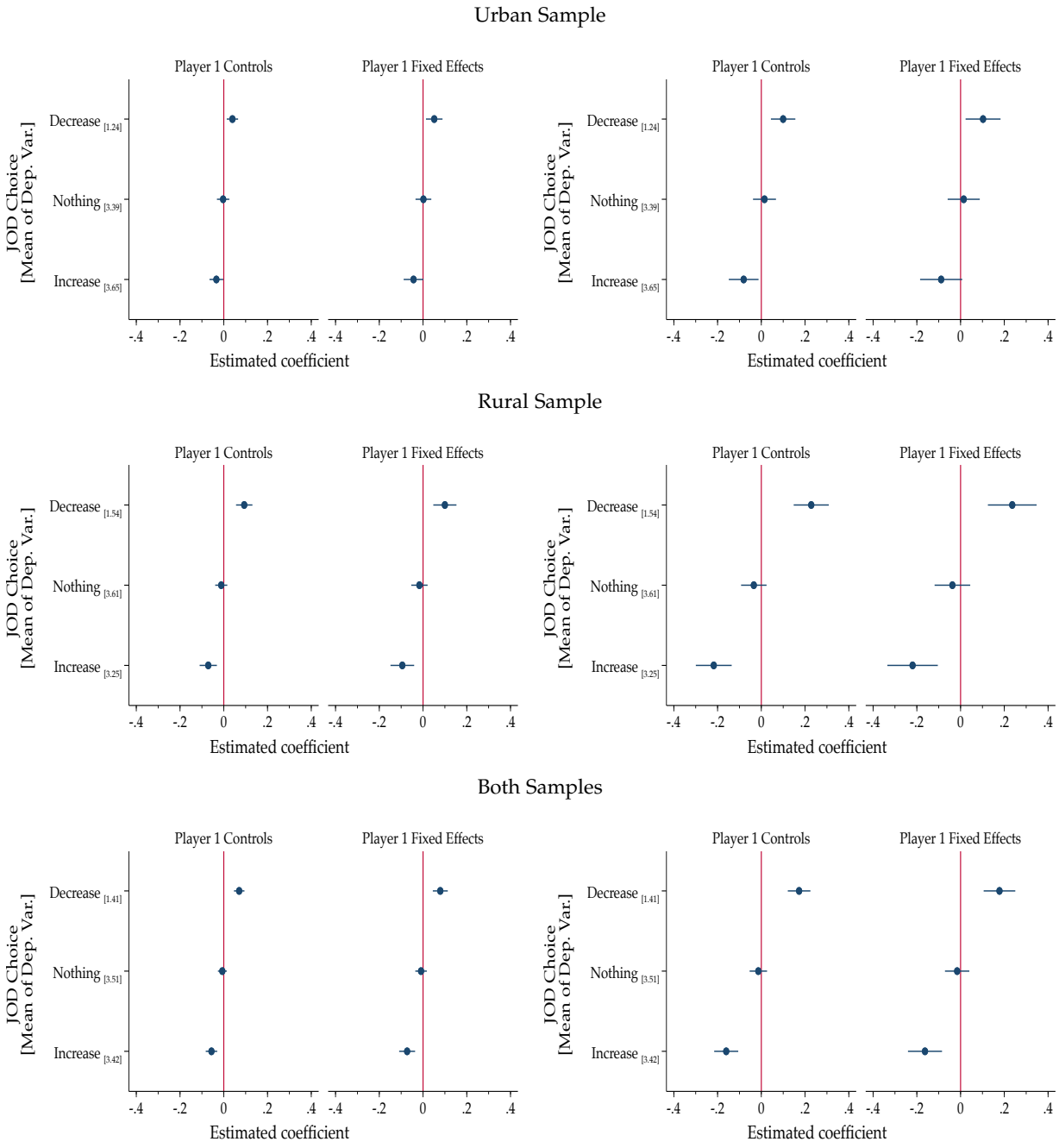
Finally, we present results with interactions between player 1 and player 2 traditional beliefs (Appendix Tables A23–A32). As with the game results, we find no consistent evidence of heterogeneity in the effect of player 2 strength traditional beliefs by player 1 strength of traditional beliefs.

6. Perceptions of those with Strong Traditional 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 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 that 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.

Figure 3: 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. *Witchcraft* is a variable from 1 to 4, where (1) is a weak belief in witchcraft, (2) neither strong nor weak belief in witchcraft, (3) strong belief in witchcraft, (4) very strong belief in witchcraft.

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 supernatural 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.[11] Participants listen to scenarios where the character exhibits the positive or negative traits described above.[12] While the complete list of the conjunction fallacy scenarios is provided in Appendix A.2, 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 a (1) married man or (2) a married man who is a strong believer in bokoko or (3) a married man who is a strong believer in the Christian God?". If option 1 is chosen, then the participant does not commit the conjunction fallacy. If option 2 is chosen, then this indicates that the characteristics described in the scenario are associated with traditional religious beliefs. If option 3 is chosen, then this suggests they are associated with Christianity.

The findings are reported in Table 6. 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. In that scenario, most people do not make the conjunction fallacy. We view this as a helpful baseline.

[11] 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.

[12] 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.

Table 6: Conjunction Fallacy

	More likely to be:					
	Baseline Characteristic	*Baseline & WC*	*Baseline & Christian*	*Baseline Characteristic*	*Baseline & WC*	*Baseline & Christian*
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)
Obs:	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 Belief*), and made the conjunction fallacy with Christian beliefs (*Baseline & Christian*). Averages are reported with the standard deviation in parentheses.

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 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 do 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 in a formal econometric framework. As explained, for each scenario, participants are given three potential choices for which is most likely; that the person 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. Of interest is which option the participant chooses and how this differs depending on the characteristics of the person in the scenario that is described.

We study this systematically with the following equations:

$$\begin{aligned} y^k_{si} &= \alpha^k_{a(i)} + \alpha^k_{g(i)} + \alpha^k_{e(i)} + \alpha^k_{v(i)} + \alpha^k_{b(i)} + \alpha^k_{t(i)} \\ &\quad + \beta^k_1 \, \textit{Traditional Beliefs}_s + \beta^k_2 \, \textit{Baseline}_s + \varepsilon^k_{si} \end{aligned} \tag{5}$$

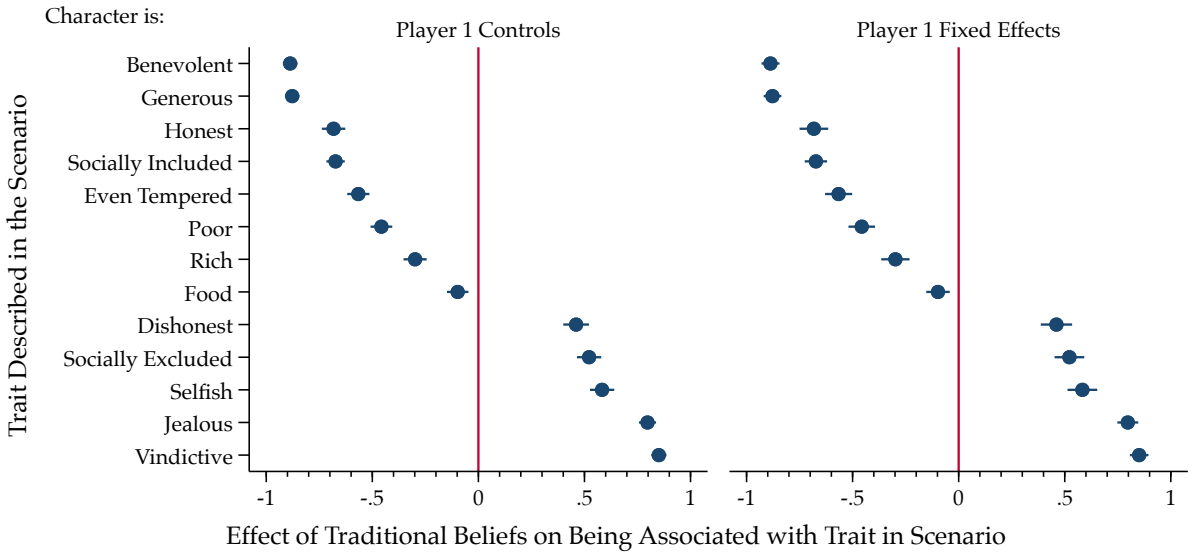
$$y^k_{si} = \alpha^k_i + \beta^k_1 \, \textit{Traditional Beliefs}_s + \beta^k_2 \, \textit{Baseline}_s + \varepsilon^k_{si}, \tag{6}$$

where the unit of observation is a choice s made by participant i regarding a scenario k. For each scenario k considered by participant i the choice made is such that either (1) no conjunction fallacy is made, (2) a conjunction fallacy is made and the association is with traditional beliefs, or (3) a conjunction fallacy is made and the association is with christianity. We create an indicator variable, denoted by $\textit{Traditional Beliefs}_i$, that equals one for choice 2 (conjunction fallacy is made and association is with traditional beliefs). The variable $\textit{Baseline}_s$ is an indicator variable that equals one if choice 1, the baseline characteristic only, is made. In this case, no conjunction fallacy is made. The third, and omitted category, is for choice 3, which is the case where the conjunction fallacy is made and the revealed association is with Christianity. The dependent variable, denoted y^k_{si}, is an indicator variable that equals one if choice s is made by participant i when asked about a scenario k. The fixed effects 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).

Equations (5) and (6) are developed to be completely analogous to equations (3) and (4). The sole difference is whether the coefficient β^k captures an individual's perception of the social norm of others regarding those with traditional beliefs – i.e., in equations (3) and (4) – or whether it captures their own perception of those with traditional beliefs – as in equations (5) and (6).

The estimates are summarized in Figure 4, which plots β^k for each scenario. 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

Figure 4: Conjunction Fallacy Estimates



indicates that those traits are less likely to be associated with traditional beliefs. By contrast, scenarios that describe individuals with negative traits tend to have a positive coefficient, which indicates that they are more likely to be associated with traditional beliefs.

These 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.

Heterogeneity

Consistent with our previous findings for behavior, we find that this association does not depend on whether or not an individual has traditional beliefs themselves. This can be seen in Appendix Table A33 and Figure A15, which reports the same estimates as in Table 6 and Figure 4 but only for participants who hold strong or very strong traditional beliefs. Thus, individuals who hold traditional beliefs also have negative associations about others with these beliefs.

7. Discussion and Implications of the Findings

Our findings improve our understanding of many social phenomena in Africa. First, they provide insight as to why there is an asymmetry in how secretive traditional religions tend to be relative to Big God religions like Christianity and Islam. Given our findings, it is not surprising that, despite that traditional practices are still extremely common, they are often practiced privately and some people can be hesitant to admit to holding traditional beliefs or engaging in traditional practices. The estimates also help us better understand why witchcraft accusations are common.[13] Our findings suggest that if the other person believes in witchcraft, it is more socially acceptable to not give to them (e.g., giving in the dictator game), to not associate with them (e.g., choosing them in the choose your dictator game), to not help them (increasing their payoff in the joy of destruction game), or to sabotage them (decreasing their payoff in the JOD game). In short, accusing others of believing in witchcraft may be a way of justifying acting less prosocially or even antisocially towards another person.

Although our findings improve our understanding of traditional religious beliefs in the DRC, they also lead to new questions. For example, there remains the question of why traditional beliefs persist and why people continue to use traditional magic by engaging in the use of rituals, spells, amulets, and fetishes given the adverse consequences that we document here. As we have noted, one explanation for the persistence of traditional beliefs, particularly in the face of the rapid adoption of Christianity on the continent, is that they do provide benefits, either at the group or individual level.

While our study provides no evidence of benefits in terms of how an individual is viewed or treated by others, there may be other benefits that we did not test for in our study. For example, traditional beliefs may provide a spiritual framework that helps individuals make sense of life and death; success and misfortune; and fairness and morality. Thus, as has been documented for other religious beliefs (Sosis and Handwerker, 1988, Bentzen, 2019, Henrich, Bauer, Cassar, Chytilova and Purzycki, 2019), the traditional beliefs we document here may help improve mental health particularly during times of stress. It is also possible that traditional beliefs have political benefits, increasing the legitimacy and authority of local lineage elders or village chiefs who rely on the 'bokoko' as a source of political power.

[13] In the urban sample, 20% of respondents report being aware of at least one witchcraft accusation in their origin village in the past year.

Another set of potential explanations for the persistence of these traditional beliefs is that cultural values and beliefs are not always beneficial at all points in time. Thus, it is very possible that today traditional supernatural beliefs in the DRC are not beneficial to those who hold them. They may have been beneficial in the past, but due to recent events such as European contact, the emergence of nation-states, and the spread of Western values, including Christianity, they are no longer beneficial today. Because of the stickiness of culture and religion, traditional beliefs persist even when no longer beneficial. This is an example of cultural mismatch which arises because of the persistence of traditions and customs (Nunn, 2022). The consequence is that many beliefs in the world, perhaps including the traditional supernatural beliefs in our setting, are not perfectly suited for the current environment.

One potential source of mismatch in our setting could be the introduction of Christianity, which may have stigmatized traditional beliefs, leading to mismatch and the effects that we find here. If this were the cause, one might expect to find that in villages with more exposure to Christianity, we observe stronger effects. However, as reported in Section 4.2, we do not see evidence of this. That said, it is possible that the effects of Christianity have permeated so thoroughly that we do not see cross-village heterogeneity even though the introduction of Christianity is responsible for the effects that we find here. For example, all villages in our sample have at least one church (the average is 3 churches).

There are many other reasons why individuals may hold beliefs that are suboptimal. It is often the case that specific beliefs cannot be changed without abandoning a broader moral framework, which is difficult to renounce. For example, abandoning traditional supernatural beliefs would also require turning one's back on one's deceased ancestors. Relatedly, humans have a tendency to believe in the supernatural. This evolved psychological trait is a byproduct of cognitive adaptations that have other functional benefits (e.g., Guthrie, 1993, Atran, 2002, Singh, 2021).

Unfortunately, the existing empirical evidence that informs the plausibility of these explanations remains limited. While this paper is able to document the causal consequences of holding traditional supernatural beliefs in terms of how individuals are perceived and treated by others, we are unable to explain why these effects are present. To understand this, we need a deeper understanding of the dynamic and evolutionary process of traditional supernatural beliefs. We view this as an important avenue for future research.

8. Conclusion

In this study, we examined how the strength of an individual's traditional supernatural beliefs affects how they are treated by others. We designed and implemented lab-in-the-field experiments in northern DRC. In the experiments, we randomly matched players and provided information about the other player in the game. Individuals were not given the exact identity of the other player but were given the following information: their age group, sex, education level, ethnicity, strength of belief in the Christian God, strength of traditional supernatural beliefs, and whether they grew up in a rural area. After being matched, participants then played the following games: the Dictator Game (DG), Choose Your Dictator Game (CYD), and Joy of Destruction Game (JOD). To study the relationship between traditional supernatural beliefs and prosociality, we rely on several measures. The first is actual behavior chosen in the games. Motivated by the possibility of experimenter demand effects, we also consider a second measure that is incentivized and asks respondents to choose how socially acceptable actions in each game are (given the players and their characteristics). Finally, we also collect survey data on perceptions of those with strong traditional beliefs using conjunction fallacy questions.

We found strong evidence across our various measures that those with strong traditional beliefs are treated less pro-socially. Across the three games, individuals consistently chose actions that were less beneficial for the other player when the other player had stronger traditional supernatural 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.

In the experiment, because we cannot randomly vary the beliefs of the decision maker (player 1), we are unable to obtain causal estimates of the effect of their beliefs on how prosocial they act towards others. However, what we see in the data is that, in general, the decision maker's (player 1's) own beliefs does not affect how prosocially they act towards the other player (player 2).

When we study measures of what behaviors others view as socially acceptable using the Krupka-Weber norm elicitation strategy, we find the same pattern. In each game, when the other player has stronger traditional supernatural beliefs, acting less prosocially towards them is perceived as being more socially acceptable and acting more prosocially towards them is perceived as being less socially acceptable.

Having examined how behavior and social norms towards an individual are affected by their's traditional beliefs, we then turn to an analysis of perceptions of those who hold traditional beliefs. Using a version of the conjunction fallacy to elicit these views, we find that traditional supernatural beliefs tend to be associated with negative traits like vindictiveness, jealousy, selfishness, dishonesty, and being a social outcast. Traditional supernatural beliefs tend not to be associated with positive traits like benevolence, generosity, honesty, being event tempered, and being social included.

Interestingly, for all of our measures of others who hold traditional beliefs, we do not find any heterogeneity based on the beliefs of the individual engaging in the behavior or holding the views of the other person. That is, we find that even individuals who report believing strongly in traditional supernatural beliefs themselves treat another person more poorly, feel it is socially acceptable to treat them poorly, and have negative perceptions about them when this other person holds traditional beliefs.

Overall, the estimates provide clear and consistent evidence of traditional supernatural beliefs being associated with less prosocial behavior as well as the norms and beliefs that provides a foundation for such behavior. This is in contrast to the hypothesis that these traditional religious beliefs induce greater group cohesion through the threat of supernatural retaliation, particularly in settings where formal state institutions are absent. The estimates suggest that the negative cross-sectional relationship that has been documented between witchcraft and measures of prosociality (e.g., trust) in aggregate observational data may, in fact, be causal.

References

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.

Atran, Scott, *In Gods We Trust: The Evolutionary Landscape of Religion*, New York: Oxford University Press, 2002.

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.

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.

Benjamin, Daniel J., James J. Choi, and Geoffrey Fisher, "Religious Identity and Economic Behavior," *Review of Economics and Statistics*, 2001, *98* (4), 617–637.

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

Bentzen, Jeanet Sinding, "Acts of God? Religiosity and Natural Disasters Across Subnational World Districts," *Economic Journal*, 2019, *129* (622), 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.

Caicedo, Felipe Valencia, 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.

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

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.

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.

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 Reivew*, 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.

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

Guthrie, Stewart Elliot, *Faces in the Clouds: A New Theory of Religion*, New York: Oxford University Press, 1993.

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.

Henrich, Joseph, Michal Bauer, Alessandra Cassar, Julie Chytilova, and Benjamin Grant Purzycki, "War Increases Religiosity," *Nature Human Behavior*, 2019, *3*, 129–135.

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.

Johnson, Dominic and Jesse Bering, "Hand of God, Mind of Man: Punishment and Cognition in the Evolution of Cooperation," *Evolutionary Psychology*, 2006, *4*, 219–233.

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

Jones, Alice Hanson, *God is Watching You: How the Fear of God Makes Us Human*, Oxford: Oxford University Press, 2016.

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

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.

Leeson, Peter, "Sassywood," *Journal of Comparative Economics*, 2012, *40*, 608–620.

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

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

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`.

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.

MacGaffey, Wyatt, *Kongo Political Culture: The Conceptual Challenge of the Particular*, Indiana University Press, 2000.

Malinowski, Bronislow, *Magic, Science and Religion*, Gelncoe, IL: Free Press, 1975.

McNamara, Rita Anne and Joseph Henrich, "Jesus vs. the Ancestors: How Specific Religious Beliefs Shape Prosociality on Yasawa Island, Fiji," *Religion, Brain & Behavior*, 2018, *8*, 185–204.

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.

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.

_ , Azim F. Shariff, Will M. Gervais, Aiyana K. Willard, Rita A. McNamara, Edward Slingerland, and Joseph Henrich, "The Cultural Evolution of Prosocial Religions," *Behavioral and Brain Sciences*, 2016, *39*, 1–65.

Nunn, Nathan, "AEA Distinguished Lecture. On the Dynamics of Human Behavior: The Past, Present, and Future of Culture, Conflict, and Cooperation," *American Economic Review Papers and Proceedings*, 2022, *112*, 15–37.

_ and Leonard Wantchekon, "The Slave Trade and the Origins of Mistrust in Africa," *American Economic Review*, 2011, *101* (7), 3221–3252.

_ 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.

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.

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

Schloss, Jeffrey P. and Michael J. Murray, "Evolutionary Accounts of Belief in Supernatural Punishment: A Critical Review," *Religin, Brain & Behavior*, 2011, *1* (1), 46–99.

Singh, Manvir, "Magic, Explanations, and Evil: The Origins and Design of Witches and Sorcerers," *Current Anthropology*, 2021, *62*, 2–29.

Sosis, Richard and W. Penn Handwerker, "Psalms and Coping with Uncertainty: Religious Israeli Women's Responses to the 2006 Lebanon War," *American Anthropologist*, 1988, *113* (1), 40–55.

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.

Xygalatas, Dimitris, Silvie Kotherova, Peter Mano, Radek Kundt, Jakub Cigan, Eva Kundtova Klocova, and Martin Lang, "Big Gods in Small Places: The Random Allocation Game in Mauritius," *Religion, Brain & Behavior*, 2018, *8* (2), 243–261.

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.

Web Appendix for

Traditional Supernatural Beliefs and Prosocial Behavior

(Not for Publication)

28 September 2022

Etienne Le Rossignol

London Business School

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*
Visit 1: Games	**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
Visit 2: Norms	**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

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

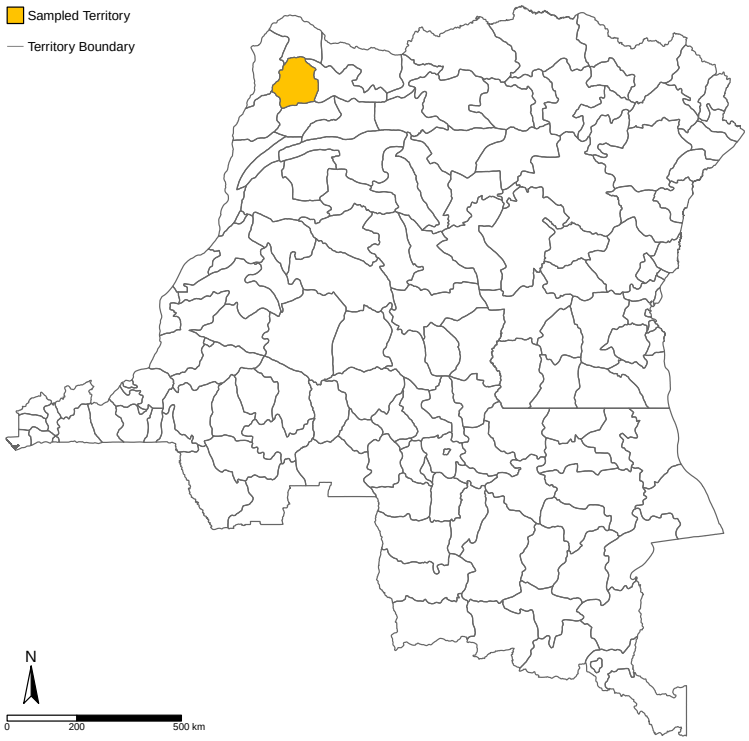


Figure A2: Map of DRC showing Sampled Territory

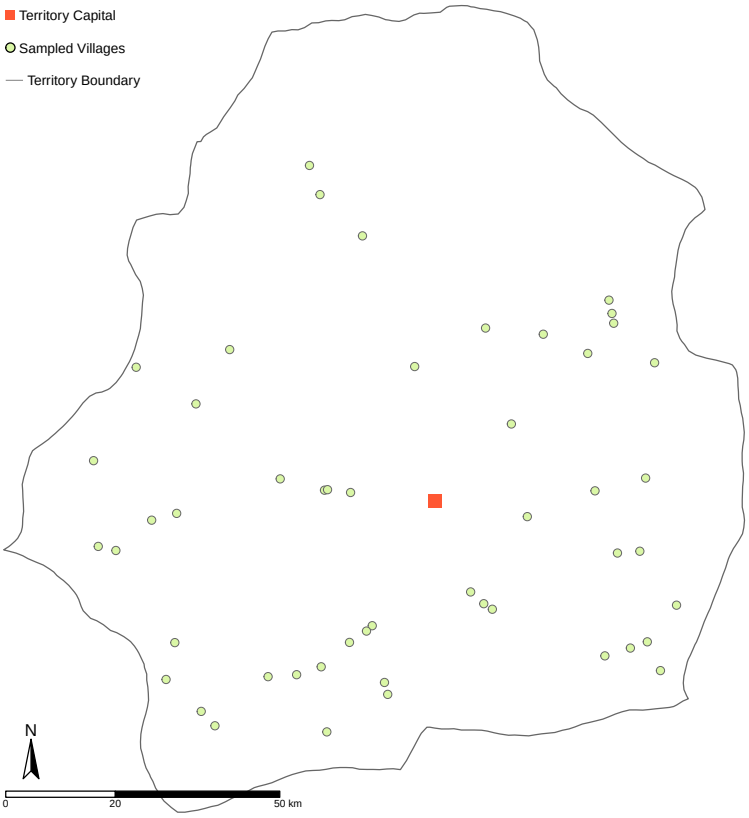


Figure A3: Map of Territory, Capital, and Sampled Villages

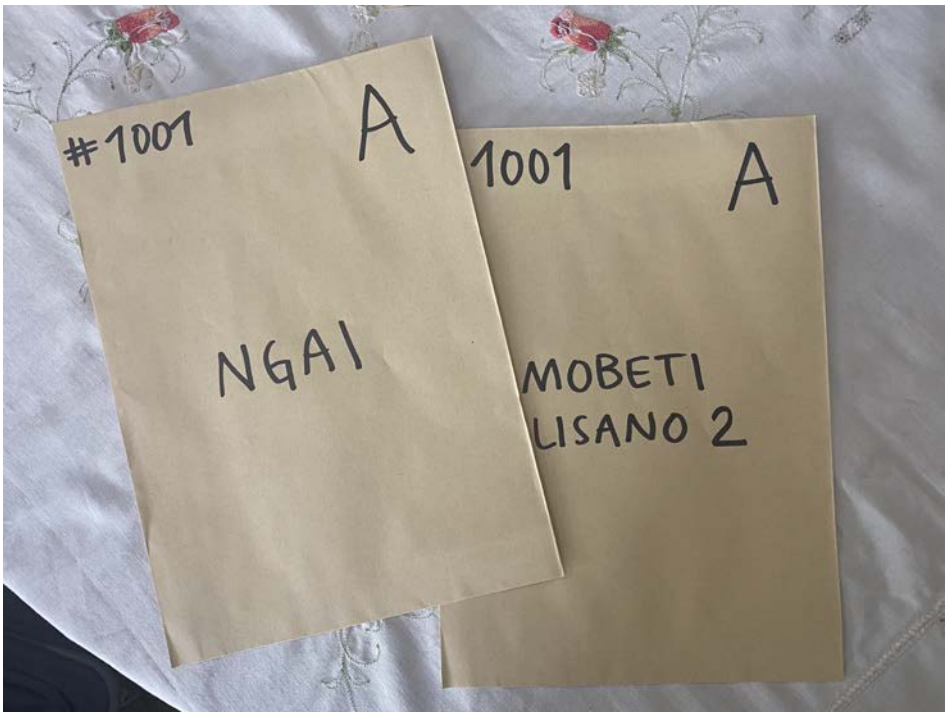


Figure A4: Envelopes used in the Dictator Game

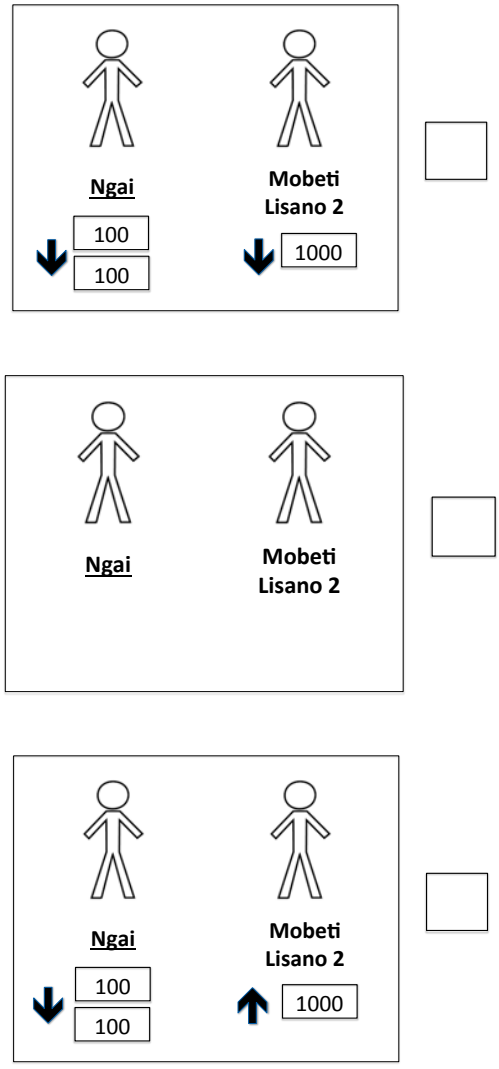


Figure A5: Form Used in the Joy of Destruction Game

Table A2: Correlates of Traditional Beliefs

	Correlates of Belief in Witchcraft					
	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. *Witchcraft* is a variable from 1 to 4, where (1) is a weak belief in witchcraft, (2) neither weak nor strong belief in witchcraft, (3) strong belief in witchcraft, and (4) very strong belief in witchcraft. *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.2. 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. It is more probable that Papy (1) is a macon or (2) a carpenter who is a strong believer in bokoko or (3) a macon 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?

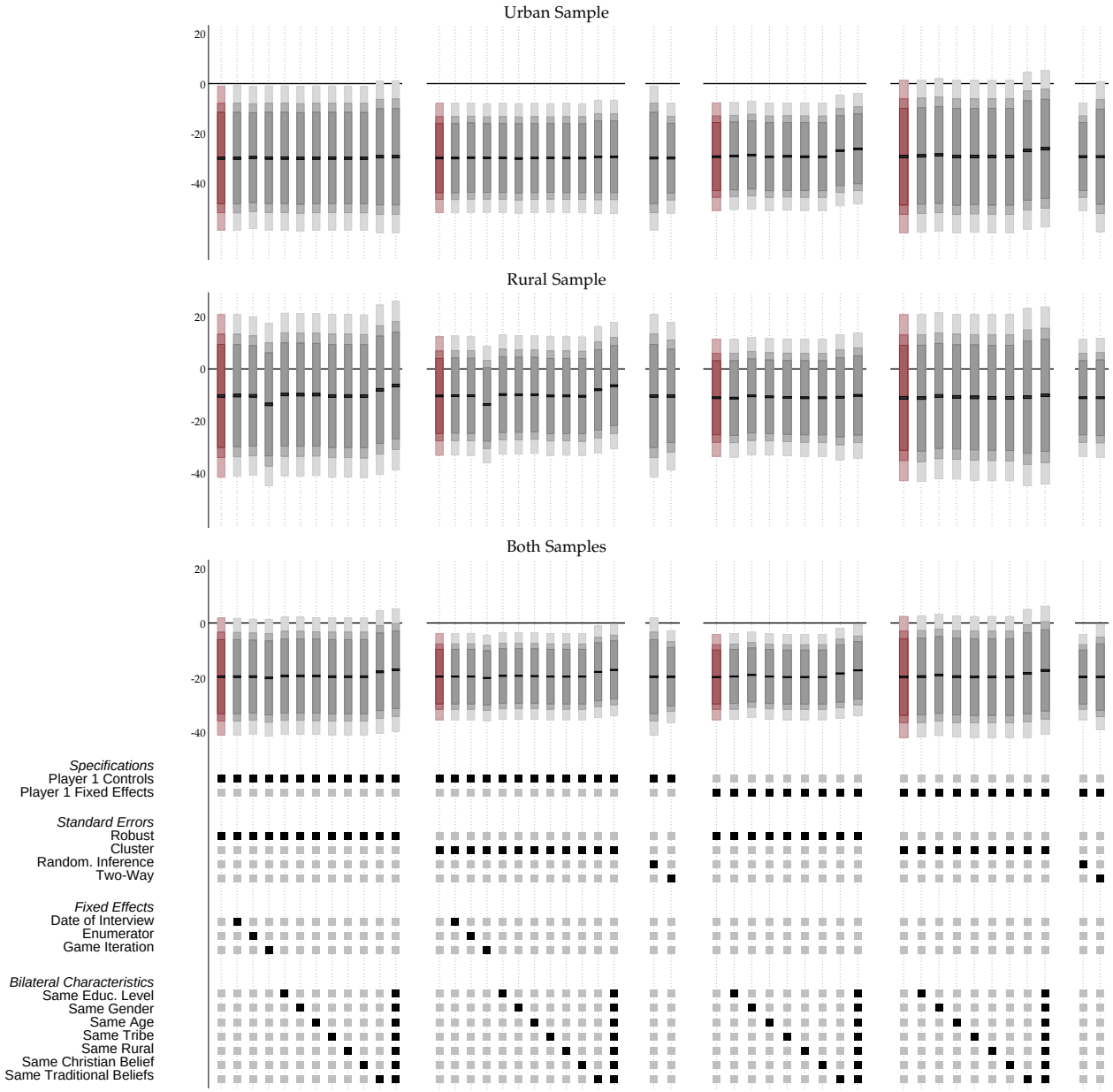
Poor Scenarios

- 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?

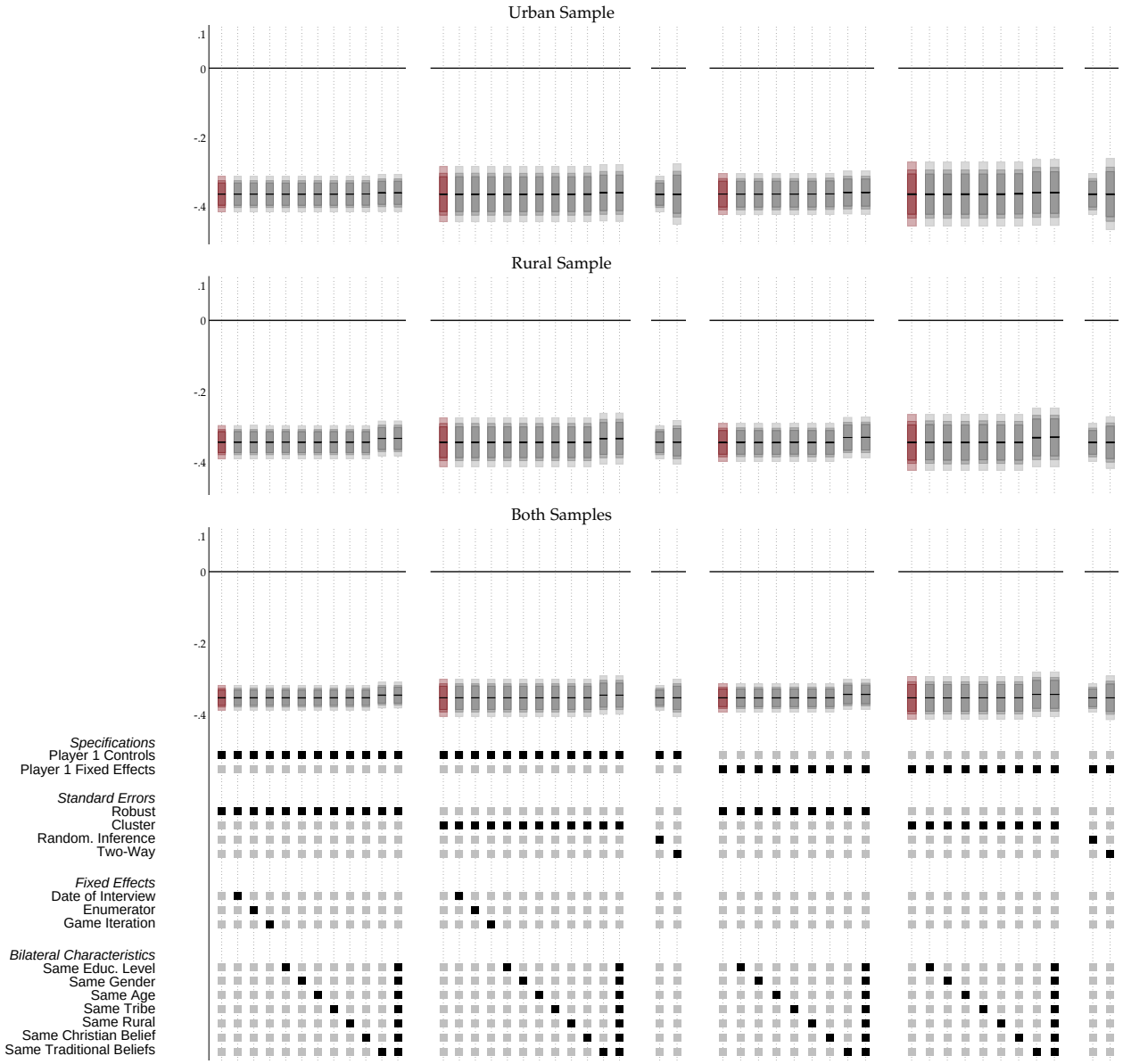
A.3. Robustness Figures for Behavioral Games Estimates

Figure A6: Summary of Robustness Checks: Dictator Game



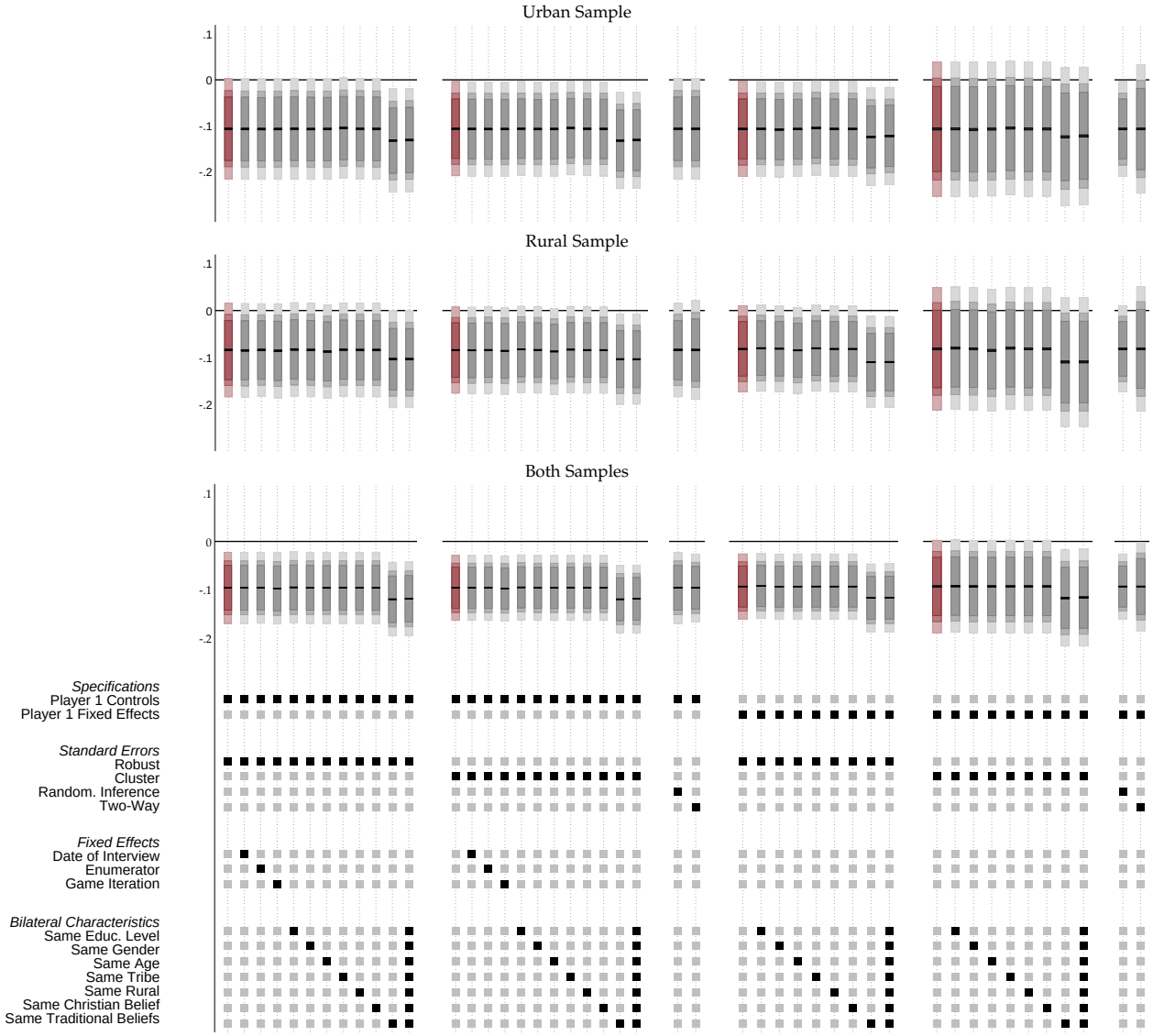
Notes: The figure shows the coefficients and standard errors for the effect of Player 2's Traditional Beliefs on the amount sent by Player 1 to Player 2 (in CF) in an anonymous dictator game. Traditional beliefs are measured with an indicator variable that equals 1 if an individual has strong or very 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 A7: 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 A8: 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.

A.4. Additional Sensitivity Checks for Behavioral Games Estimates

Table A3: 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 A4: 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 A5: 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 A6: 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

Table A7: 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 A8: 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 A9: 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.5. Heterogeneity by Player 1's Traditional Beliefs: 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 Trad. 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 Trad. 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 Trad. 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. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

A.6. 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. For the rural sample we collected various present day and historical village level measures of exposure to Christianity. For our 50 rural villages these measures include: number of churches in the village by denomination, the earliest that a church of any particular denomination was present in the village, whether missionaries were present in the village in the past, and distance to closest Catholic or Protestant mission station. We also construct a Principal Component Analysis measure aggregating these various components. To help interpretation of the magnitude of the estimates, we normalize each measure to range from 0 to 1.

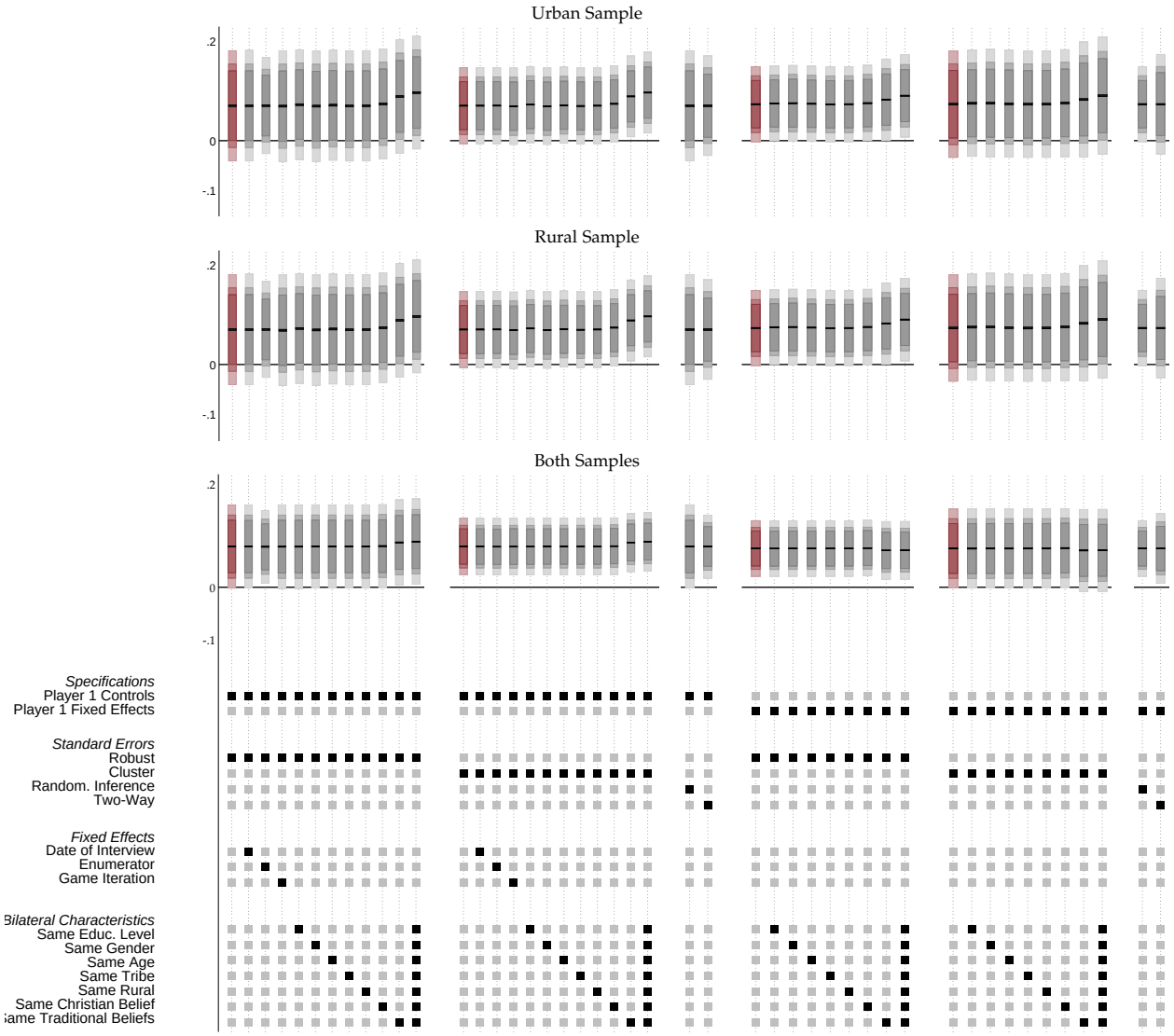
Table A13: Heterogeneity by Village-Level Exposure to Christianity

	OLS, Dep. Var.:					
	DG: Amount Sent		*CYD: Chose*		*JOD: Choice*	
	(1)	(2)	(3)	(4)	(5)	(6)
Player 2's Traditional Beliefs:						
	Panel A: Number of churches in village index, 0-1					
Strong or Very Strong × Num. of Churches	-35.698	-47.956	-0.099	-0.117	0.125	0.126
	[54.073]	[74.934]	[0.146]	[0.166]	[0.193]	[0.283]
	Panel B: Number of Catholic churches in village index, 0-1					
Strong or Very Strong × Num. of Catholic Churches	11.545	9.759	-0.013	-0.010	-0.077	-0.080
	[16.856]	[23.779]	[0.072]	[0.083]	[0.079]	[0.111]
	Panel C: Number of Protestant churches in village index, 0-1					
Strong or Very Strong × Num. of Protestant Churches	-14.494	-17.188	0.466	0.463	0.061	0.069
	[37.890]	[56.842]	[0.284]	[0.335]	[0.200]	[0.299]
	Panel D: Number of Pentecostal churches in village index, 0-1					
Strong or Very Strong × Num. of Pentecostal Churches	-15.590	-24.375	-0.188	-0.203	0.123	0.127
	[43.713]	[60.536]	[0.134]	[0.151]	[0.164]	[0.238]
	Panel E: Years since first church in village index, 0-1					
Strong or Very Strong × Years of Church	31.383	31.367	0.260	0.262	-0.013	-0.016
	[31.491]	[44.949]	[0.119]**	[0.137]*	[0.115]	[0.160]
	Panel F: Years since first Catholic church in village index, 0-1					
Strong or Very Strong × Years of Catholic Church	34.604	34.079	0.118	0.118	-0.022	-0.031
	[23.264]	[33.468]	[0.096]	[0.111]	[0.096]	[0.134]
	Panel G: Years since first Protestant church in village index, 0-1					
Strong or Very Strong × Years of Protestant Church	-20.406	-17.490	0.035	0.041	0.010	0.029
	[31.171]	[42.761]	[0.115]	[0.133]	[0.092]	[0.130]
	Panel H: Years since first Pentecostal church in village index, 0-1					
Strong or Very Strong × Years of Pentecostal Church	37.646	34.672	-0.015	-0.026	0.064	0.067
	[26.285]	[36.153]	[0.082]	[0.097]	[0.135]	[0.193]
	Panel I: Indicator for historical missionary presence					
Strong or Very Strong × Missionary Presence	8.473	5.677	-0.004	-0.007	0.170	0.172
	[30.122]	[42.300]	[0.057]	[0.065]	[0.121]	[0.166]
	Panel J: Inverted distance to historical Catholic mission index, 0-1					
Strong or Very Strong × Inv. Distance Catholic Mission	-29.280	-32.500	-0.441	-0.441	-0.176	-0.167
	[35.388]	[50.991]	[0.120]***	[0.139]***	[0.140]	[0.208]
	Panel K: Inverted distance to historical Protestant mission index, 0-1					
Strong or Very Strong × Inv. Distance Protestant Mission	-42.044	-47.937	-0.252	-0.251	0.019	-0.002
	[33.254]	[46.871]	[0.112]**	[0.127]*	[0.118]	[0.171]
	Panel L: Principal component of village variables index, 0-1					
Strong or Very Strong × Principal Component	-3.635	4.923	-0.060	-0.050	-0.188	-0.190
	[55.658]	[79.184]	[0.172]	[0.202]	[0.168]	[0.254]
Player 1 FE	N	Y	N	Y	N	Y
Mean Dep. Var.	437.7	437.7	0.500	0.500	0.0807	0.0807
Clusters	50	50	50	50	50	50
Observations	1200	1200	2400	2400	1190	1190

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

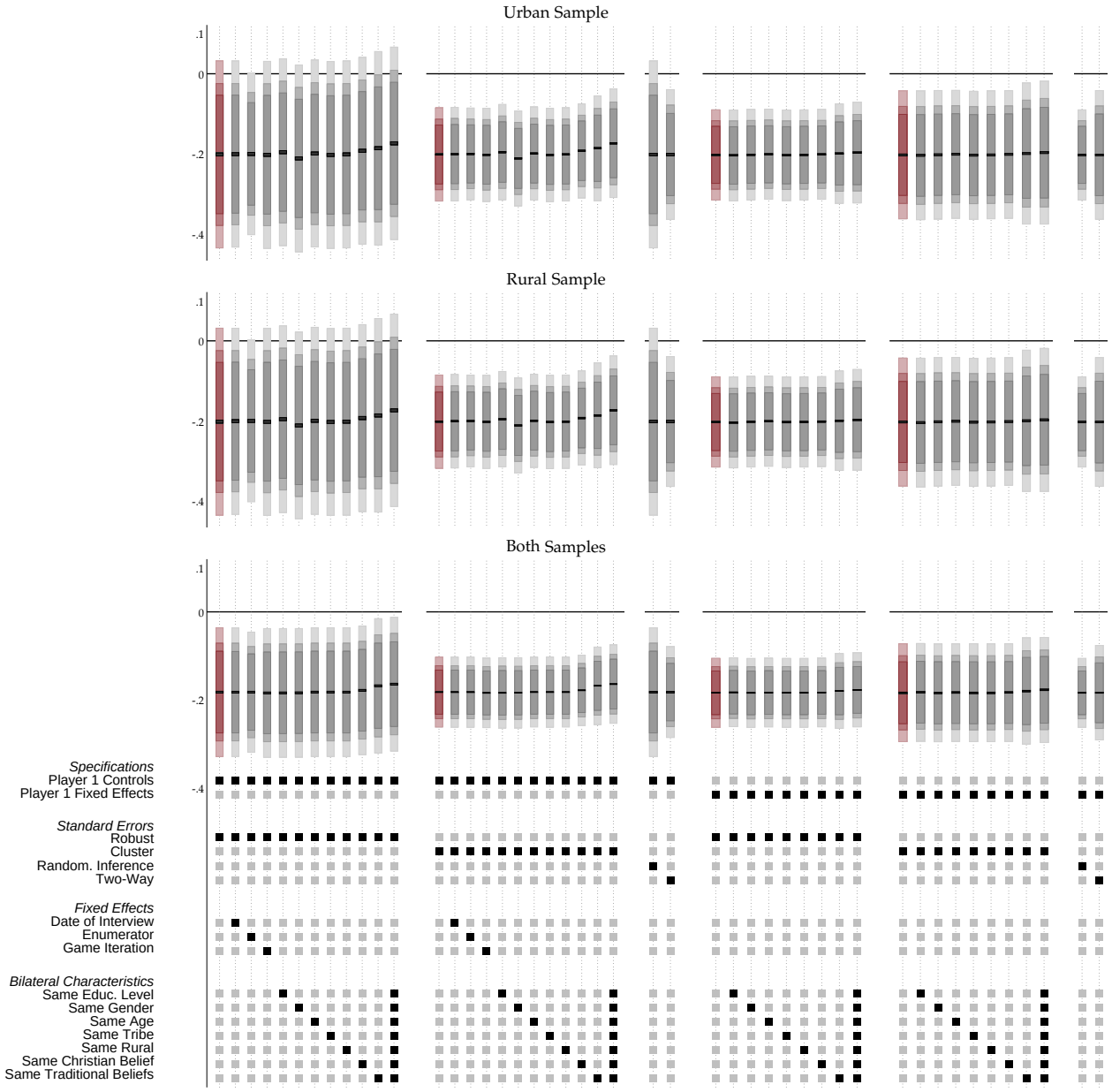
A.7. Robustness Figures for Social Norms Estimates

Figure A9: Robustness: DG Appropriate to Send CF100 to Player 2



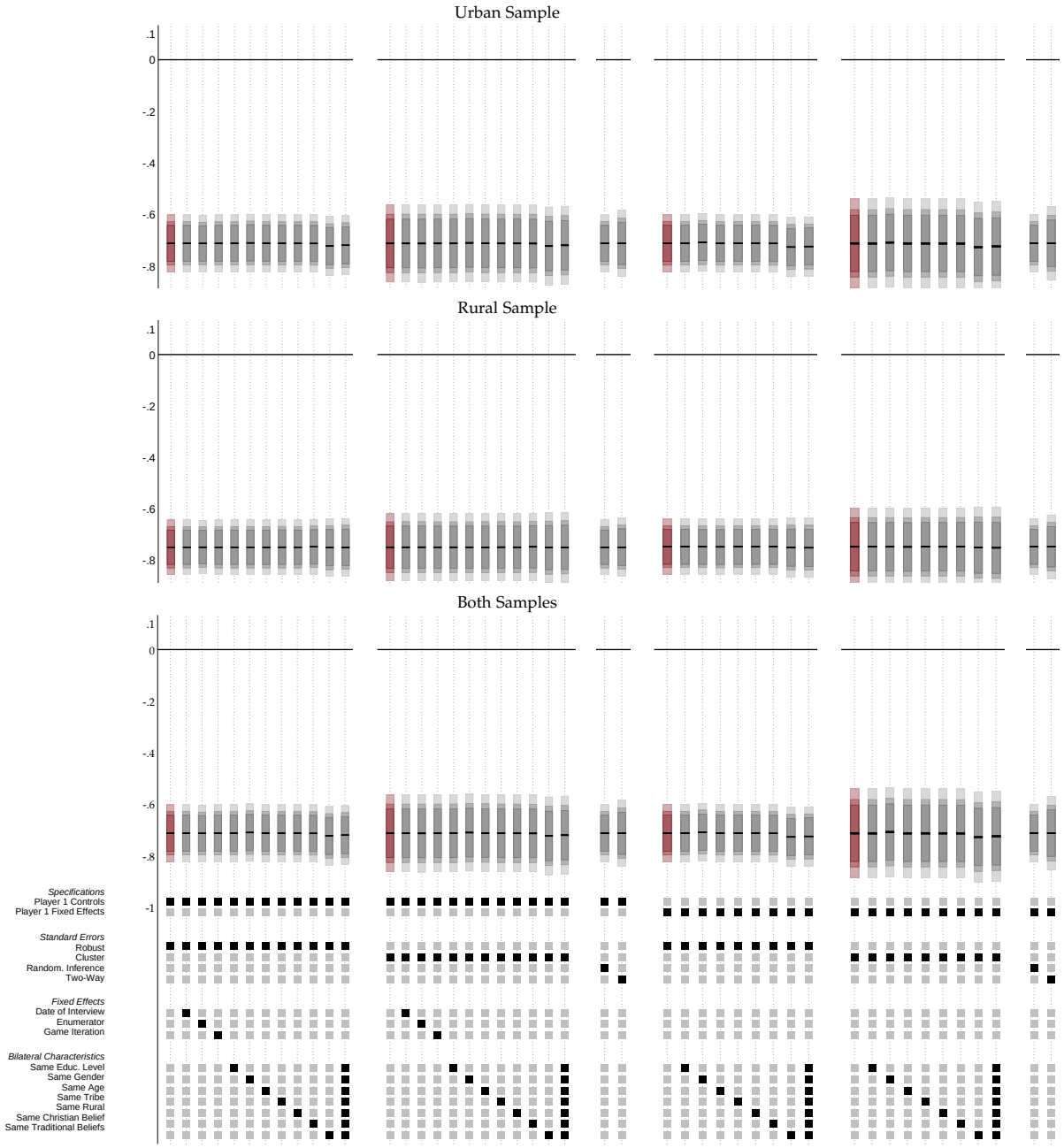
Notes: The figure shows the coefficients and standard errors for the effect of Player 2's Traditional Beliefs on the appropriateness to send CF100 to a Player 2 that has strong traditional beliefs. Traditional Beliefs are measured with an indicator variable that equals 1 if an individual has strong or 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 A10: Robustness: DG Appropriate to Send CF1000 to Player 2



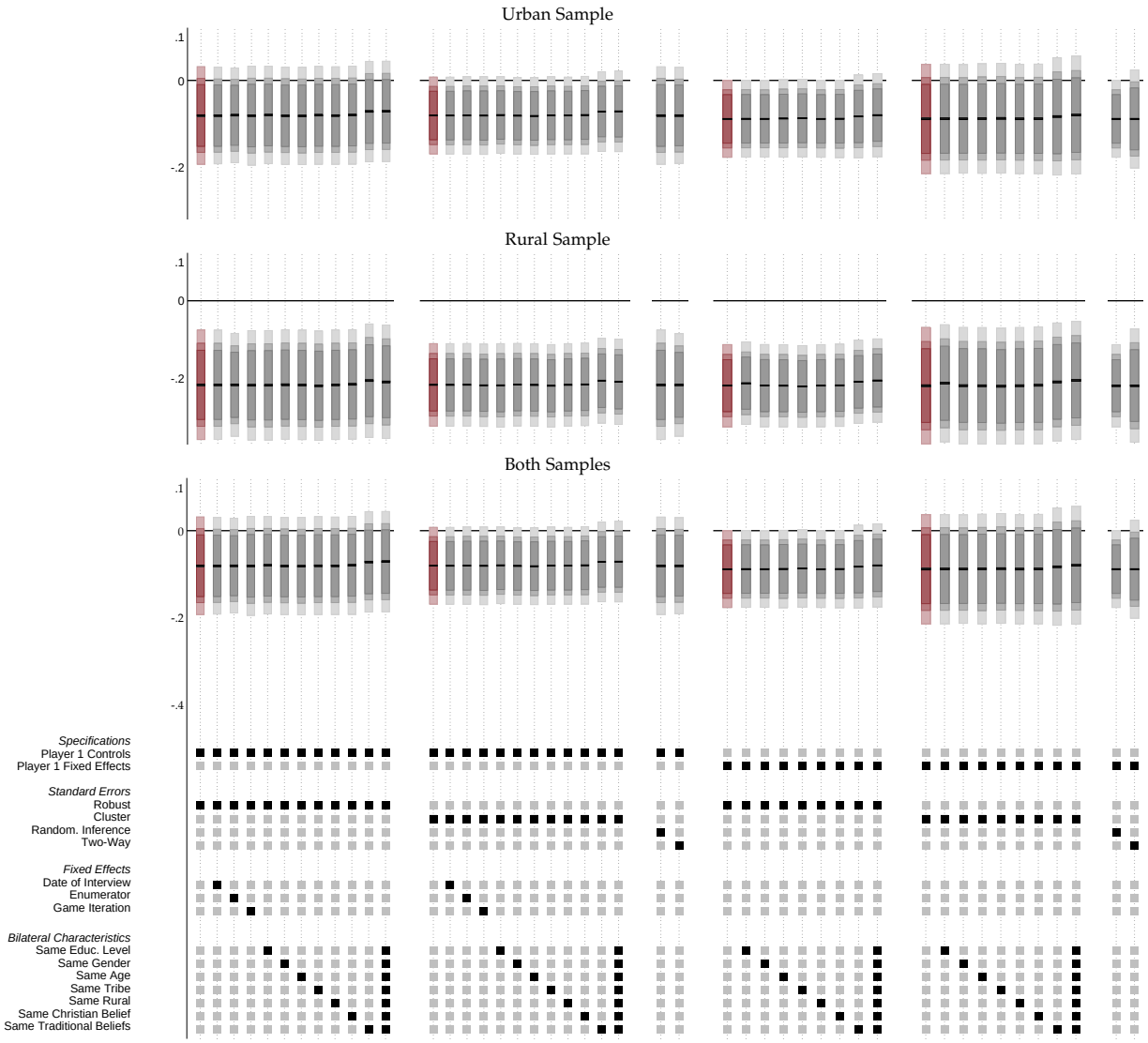
Notes: The figure shows the coefficients and standard errors for the effect of Player 2's Traditional Beliefs on the appropriateness to send CF1000 to a Player 2 that has strong traditional beliefs. Traditional Beliefs are measured with an indicator variable that equals 1 if an individual has strong 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 A11: Robustness: CYD Appropriate to Choose Player



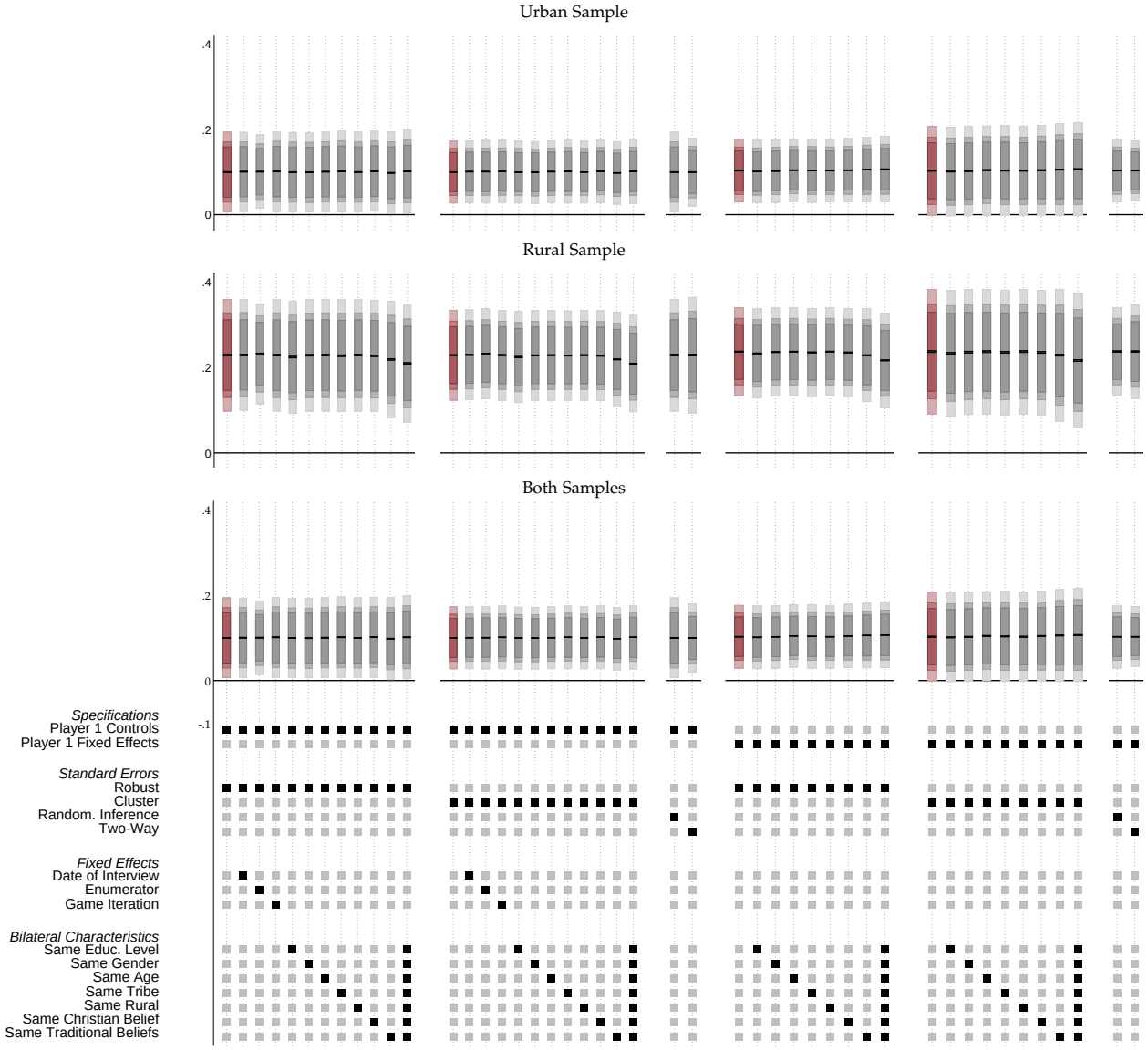
Notes: The figure shows the coefficients and standard errors for the effect of Player 2's Traditional Beliefs on the appropriateness to chose a Player 2 that has strong traditional beliefs in an anonymous chose your dictator game. Traditional Beliefs are measured with an indicator variable that equals 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 A12: Robustness: JOD Appropriate to Increase



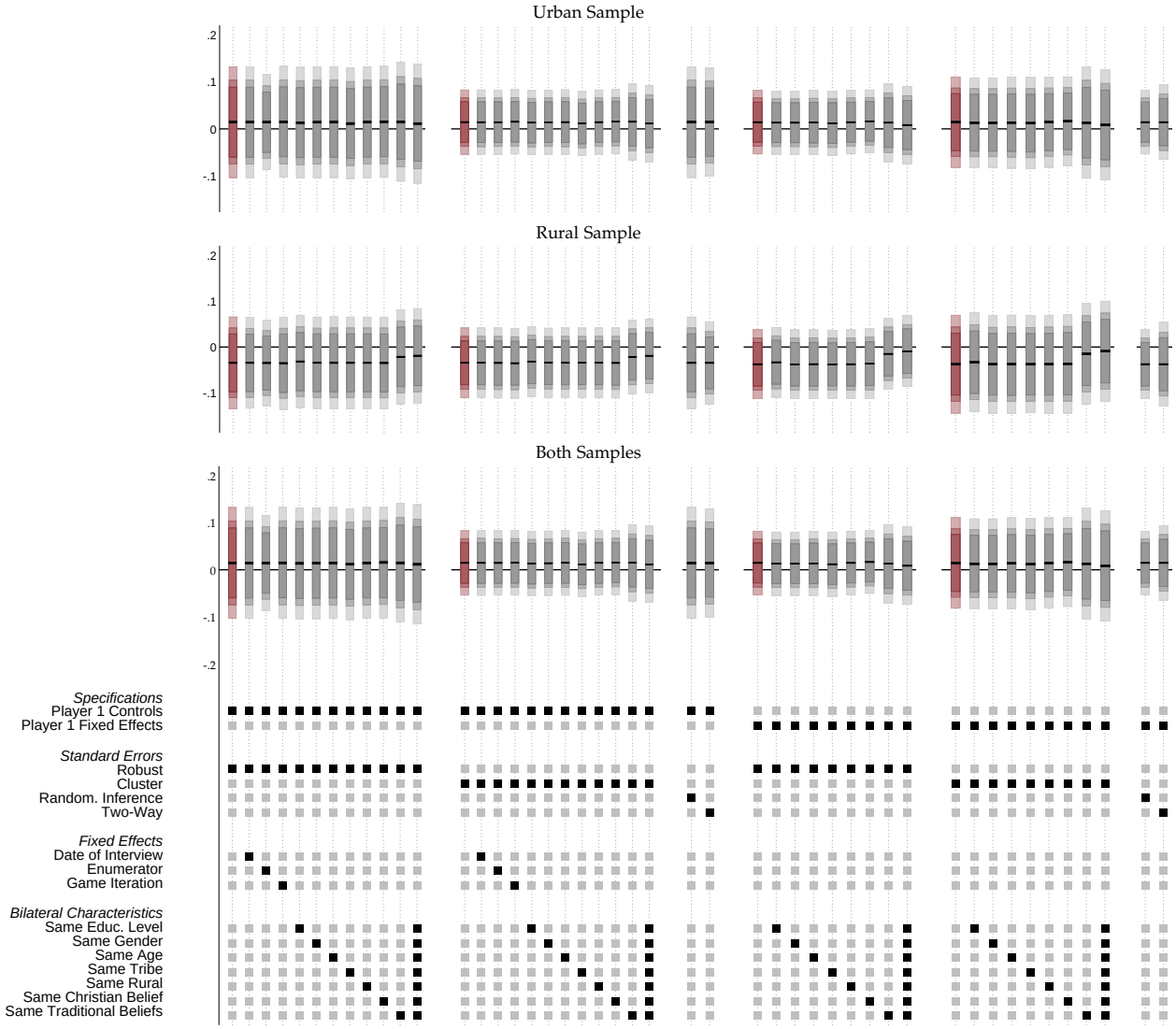
Notes: The figure shows the coefficients and standard errors for the effect of Player 2's Traditional Beliefs on the appropriateness to increase the endowment of Player 2 in an anonymous joy of destruction game. Traditional Beliefs are measured with an indicator variable that equals 1 if an individual 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 A13: 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 A14: 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.

A.8. Additional Sensitivity Checks for Social Norms Estimates

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

	OLS, Dep. Var.: Appropriate to Send [...] CF to the Other Player, 1-4																					
	0 CF		100 CF		200 CF		300 CF		400 CF		500 CF		600 CF		700 CF		800 CF		900 CF		1000 CF	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
	Panel A: 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 A15: 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 A16: 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 A17: 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 A18: 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 A19: 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 A20: 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 A21: 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 A22: 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

A.9. Heterogeneity by Player 1's Traditional Beliefs: Social Norms Estimates

Table A23: 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 Trad. 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 A24: 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 Trad. 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 A25: 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 Trad. Beliefs:																						
Integer Measure, 1-4 × 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
	[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 A26: 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 Trad. 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 A27: 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 Trad. Beliefs:																						
Integer Measure, 1-4 × 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
	[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 A28: 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 Trad. 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 A29: 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 Trad. 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 A30: 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 Trad. Beliefs:												
Integer Measure, 1-4 × Integer Measure, 1-4	-0.001	0.011			-0.035	-0.031			-0.021	-0.014		
	[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 × Strong or Very Strong			0.043	0.043			-0.127	-0.115			-0.053	-0.049
			[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 A31: 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 Trad. 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 A32: 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 Trad. 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

A.10. Additional Conjunction Fallacy Estimates

Table A33: Conjunction Fallacy: Respondents With Strong or Very Strong Traditional Beliefs Only

	More likely to be:						
	Baseline Characteristic	*Baseline & WC*	*Baseline & Christian*		*Baseline Characteristic*	*Baseline & WC*	*Baseline & Christian*
Food	64.14	8.75	27.11				
	(48.03)	(28.29)	(44.52)				
Honest	13.41	8.75	77.84	**Dishonest**	36.44	50.44	13.12
	(34.13)	(28.29)	(41.59)		(48.2)	(50.07)	(33.81)
Benevolent	4.08	3.79	92.13	**Jealous**	16.33	79.88	3.79
	(19.82)	(19.12)	(26.97)		(37.01)	(40.15)	(19.12)
Generous	7.87	2.92	89.21	**Selfish**	26.24	63.85	9.91
	(26.97)	(16.85)	(31.07)		(44.06)	(48.11)	(29.93)
Even Tempered	33.82	3.79	62.39	**Vindictive**	12.54	84.26	3.21
	(47.38)	(19.12)	(48.51)		(33.16)	(36.47)	(17.64)
Socially Included	35.86	1.46	62.68	**Socially Excluded**	34.99	55.69	9.33
	(48.03)	(12)	(48.44)		(47.76)	(49.75)	(29.13)
Rich	54.81	7.87	37.32	**Poor**	47.81	5.54	46.65
	(49.84)	(26.97)	(48.44)		(50.03)	(22.91)	(49.96)
Obs:	343	343	343		343	343	343

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 Belief*), and made the conjunction fallacy with Christian beliefs (*Baseline & Christian*). Averages are reported with the standard deviation in parentheses.

Figure A15: Conjunction Fallacy Estimates: Respondents With Strong or Very Strong Traditional Beliefs Only