

---

# Evolution of Religion and Morality Project: *Dataset Materials*

---

Last Updated: February 02, 2022

Maintained by Martin Lang (email: [martinlang@mail.muni.cz](mailto:martinlang@mail.muni.cz)) and Benjamin Grant Purzycki  
([bgpurzycki@gmail.com](mailto:bgpurzycki@gmail.com)).

**Please include both of us in conversation in case of questions.**

## Contents

1.	Introduction .....	2
1.1	Site description: .....	2
1.2	Participant exclusion criteria:.....	8
1.3	Protocol deviations: .....	8
1.3.1	Gameplay .....	8
1.3.2	LOCAL, DISTANT, and OUTGROUP definitions (see Tab. 2) .....	8
1.3.3	Priming .....	9
1.3.4	Demographic questions .....	10
1.3.5	Religiosity questions .....	10
2.	Codebook and Notes.....	12



# 1. Introduction

This project aimed to explore the role belief in culturally evolving supernatural agents plays in stabilizing non-kin cooperation in large-scale societies. With the rise of food production, cultural evolutionary forces increasingly favored societal mechanisms that permitted populations to scale up in size, complexity and the extent of cooperation. Specialization and transportation increased trade, as exchange increasingly included strangers and those well outside people's communities, ethnic groups or social networks. In this project, as one of these societal mechanisms, we proposed that belief in increasingly morally concerned gods (MGs) harnessed a variety of human mental mechanisms, including those related to reputation and punishment, to promote mutual cooperation in situations where reciprocity, signaling, and kin mechanisms are not sufficient. To this end, we collected data from 15 different societies on their religious beliefs and behaviors, demography, and decisions in two economic games—the Random Allocation Game (RAG) and Dictator Game (DG). The data were collected in two waves between 2013-2015. The main published outputs are summarized below.

This document accompanies the final data set resulting from the Evolution of Religion and Morality Project and details all used variables and site-specific deviations from the protocol that need to be considered when further using this dataset.

**When using the data set, please cite Purzycki et al. (2016) and Lang et al. (2019) detailed below in the Main publications.**

## Main publications:

Lang, M., Purzycki, B. G., Apicella, C. L., Atkinson, Q. D., Bolyanatz, A., Cohen, E., Handley, C., Klocová, E. K., Lesorogol, C., Mathew, S., McNamara, R. A., Moya, C., Placek, C. D., Soler, M., Vardy, T., Weigel, J. L., Willard, A. K., Xygalatas, D., Norenzayan, A., & Henrich, J. (2019). Moralizing gods, impartiality, and religious parochialism across 15 societies. *Proceedings of the Royal Society B*, 286(1898), 1–10.  
<https://doi.org/https://doi.org/10.1098/rspb.2019.0202>

Purzycki, B. G., Apicella, C., Atkinson, Q. D., Cohen, E., McNamara, R. A., Willard, A. K., Xygalatas, D., Norenzayan, A., & Henrich, J. (2016). Moralistic gods, supernatural punishment and the expansion of human sociality. *Nature*, 530(7590), 327–330.  
<https://doi.org/10.1038/nature16980>

Purzycki, B. G., Henrich, J., Apicella, C., Atkinson, Q. D., Baimel, A., Cohen, E., McNamara, R. A., Willard, A. K., Xygalatas, D., & Norenzayan, A. (2018). The evolution of religion and morality: A synthesis of ethnographic and experimental evidence from eight societies. *Religion, Brain & Behavior*, 8(2), 101–132.  
<https://doi.org/10.1080/2153599X.2016.1267027>

Purzycki, Benjamin G., Lang, M., Henrich, J., & Norenzayan, A. (In press). The Evolution of Religion and Morality Project: Reflections and looking ahead. *Religion, Brain & Behavior*.

### Site-specific publications:

Apicella, C. L. (2018). High levels of rule-bending in a minimally religious and largely egalitarian forager population. *Religion, Brain & Behavior*, 8(2), 133–148.  
<https://doi.org/10.1080/2153599X.2016.1267034>

Atkinson, Q. D. (2018). Religion and expanding the cooperative sphere in Kastom and Christian villages on Tanna, Vanuatu. *Religion, Brain & Behavior*, 8(2), 149–167.  
<https://doi.org/10.1080/2153599X.2016.1267028>

Bolyanatz, A. (In press). When god is watching: Dictator game results from the Sursurunga of New Ireland, Papua New Guinea. *Religion, Brain & Behavior*.

Cohen, E., Baimel, A., & Purzycki, B. G. (2018). Religiosity and resource allocation in Marajó, Brazil. *Religion, Brain & Behavior*, 8(2), 168–184.  
<https://doi.org/10.1080/2153599X.2016.1267029>

Klocová Kundtová, E., Lang, M., Maño, P., Kundt, R., & Xygalatas, D. (In press). Cigarettes for the dead : Effects of sorcery beliefs on parochial prosociality in Mauritius. *Religion, Brain & Behavior*.

McNamara, R. A., & Henrich, J. (2018). Jesus vs. the ancestors: how specific religious beliefs shape prosociality on Yasawa Island, Fiji. *Religion, Brain & Behavior*, 8(2), 185–204.  
<https://doi.org/10.1080/2153599X.2016.1267030>

Placek, C. D., & Lightner, A. (In press). Big gods, local Gods, and complexity in Hindu god concepts: Evidence from South India. *Religion, Brain & Behavior*.

Purzycki, B. G., & Kulundary, V. (2018). Buddhism, identity, and class: Fairness and favoritism in the Tyva Republic. *Religion, Brain & Behavior*, 8(2), 205–226.  
<https://doi.org/10.1080/2153599X.2016.1267031>

Soler, M., Purzycki, B. G., & Lang, M. (In press). Perceptions of moralizing agents and cooperative behavior in Northeastern Brazil. *Religion, Brain & Behavior*.

Stagnaro, N., Stibbard-Hawkes, D. N. E., & Apicella, C. L. (In press). Do religious and market-based institutions promote cooperation in Hadza hunter-gatherers? *Religion, Brain & Behavior*.

Vardy, Tom, & Atkinson, Q. D. (In press). Moralistic and local god beliefs and the extent of prosocial preferences on Tanna Island, Vanuatu. *Religion, Brain & Behavior*.

Weigel, J. L. (In press). Prosociality, insurance, and Pentecostalism in the D. R. Congo. *Religion, Brain & Behavior*.

Willard, A. K. (2018). Religion and prosocial behavior among the Indo-Fijians. *Religion, Brain & Behavior*, 8(2), 227–242. <https://doi.org/10.1080/2153599X.2016.1267032>

Xygalatas, D., Kotherová, S., Maño, P., Kundt, R., Cigán, J., Kundtová Klocová, E., & Lang, M. (2018). Big Gods in small places: The random allocation game in Mauritius. *Religion, Brain & Behavior*, 8(2), 243–261. <https://doi.org/http://dx.doi.org/10.1080/2153599X.2016.1267033>

### **Publication detailing Wave I dataset:**

Purzycki, B. G., Apicella, C., Atkinson, Q. D., Cohen, E., McNamara, R. A., Willard, A. K., Xygalatas, D., Norenzayan, A., Henrich, J., Botero, C. A., Henrich, J., Heine, S. J., Norenzayan, A., Peoples, H. C., Marlowe, F. W., Roes, F. L., Raymond, M., Sears, D. O., Shariff, A. F., ... Huici, C. (2016). Cross-cultural dataset for the evolution of religion and morality project. *Scientific Data*, 3, 160099. <https://doi.org/10.1038/sdata.2016.99>

### **Further publications using these data:**

Baimel, A., Apicella, C. L., Atkinson, Q., Bolyanatz, A., Cohen, E., Handley, C., Henrich, J., Kundtová Klocová, E., Lang, M., Lesogorol, C., Mathew, S., McNamara, R. A., Moya, C., Norenzayan, A., Placek, C., Soler, M., Vardy, T., Weigel, J., Willard, A. K., ... Purzycki, B. G. (In press). Material insecurity predicts greater commitment to moralistic and less commitment to local deities: A cross-cultural investigation. *Religion, Brain &*

Purzycki, B. G., & Lang, M. (2019). Identity fusion, outgroup relations, and sacrifice: A cross-cultural test. *Cognition*, 186, 1–6. <https://doi.org/10.1016/j.cognition.2019.01.015>

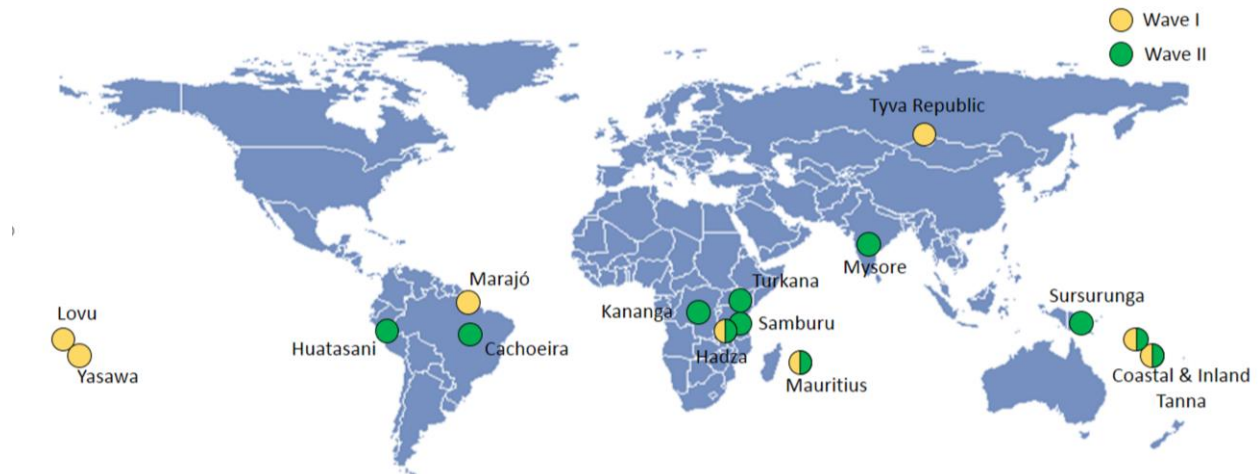
Purzycki, B. G., Pisor, A. C., Apicella, C., Atkinson, Q., Cohen, E., Henrich, J., McElreath, R., McNamara, R. A., Norenzayan, A., Willard, A. K., & Xygalatas, D. (2018). The cognitive and cultural foundations of moral behavior. *Evolution and Human Behavior*, 39(5), 490–501. <https://doi.org/10.1016/j.evolhumbehav.2018.04.004>

Purzycki, B. G., Ross, C. T., Apicella, C., Atkinson, Q. D., Cohen, E., McNamara, R. A., Willard, A. K., Xygalatas, D., Norenzayan, A., & Henrich, J. (2018). Material security, life history, and moralistic religions: A cross-cultural examination. *PLoS ONE*, 13(3), e0193856. <https://doi.org/10.1371/journal.pone.0193856>

Vardy, T., Moya, C., Placek, C., Apicella, C. D., Bolyanatz, A., Cohen, E., Handley, C., Klocová, K., Lesogorol, C., Mathew, S., McNamara, R. A., Purzycki, B. G., Soler, M., Willard, A. K., Xygalatas, D., Norenzayan, A., Henrich, J., Lang, M., & Atkinson, Q. D. (In press). The religiosity gender gap in 14 diverse societies. *Religion, Brain & Behavior*.

### 1.1 Site description:

The data were collected among 15 different societies (including sites from Wave I), namely among 1) Cachoeira in the state of Bahia, Brazil; 2) Coastal Tanna in Vanuatu; 3) the Hadza of Tanzania; 4) Huatasani in Peru; 5) Indo-Fijians in Lovu, Fiji; 6) Inland Tanna in Vanuatu; 7) Kananga in the Democratic Republic of Congo; 8) Mysore in India; 9) Marajo in the state of Pará, Brazil; 10) Indo-Mauritians in Point aux Piments, Mauritius; 11) Samburu in Kenya; 12) Sursurunga in New Ireland; 13) Turkana in Kenya; 14) Kyzyl, Tyva Republic in Russia; and 15) Yasawa in Fiji. The overall number of participants taking part at least in one game was 2228 (see Table 1 for detailed descriptive statistics). Readers should consult general publications on the project (especially the Supplementary Material of Lang et al., 2019) and site-specific publications listed above for details on the data collected and particular sites.



**Figure 1 | Map of data-collection sites.**

Tab. S2. Site description

Site	Wave	Moralistic God	Local God	Distant religion/ethnicity	Outgroup religion/ethnicity	Sampling	Economy	GDPPC
Cachoeira	II	Christian God	Candomblé God ( <i>Ogum</i> )	Candomble	Evangelical	Chain sample (temples)	Market	8678
Coastal Tanna	I + II	Christian God	Garden spirit ( <i>Tupunus</i> )	Christian	Kastom	Cluster sample (census)	Horticulture	2805
Hadza	I + II	<i>Haine</i> (Traditional)	<i>Ishoko</i> *	<i>Hadza</i>	<i>Datoga</i>	Entire camps	Hunting	879
Huatasani	II	Christian God	Mountain Spirits/Christian Saints	Catholic	Evangelical	Random/chain sample (street)	Farming/ Herding	6027
Inland Tanna	I + II	<i>Kalpapan</i> (Traditional)	Garden spirit ( <i>Tupunus</i> )	Kastom	Christian	Entire community	Horticulture	2805
Kananga	II	Christian God	<i>Kadim</i> /Ancestor spirits	<i>Non-Luluwa</i> Christian	<i>Non-Luluwa</i>	Random sample (census)	Market	456
Lovu	I	Hindu Bhagwan	Nonavailable	Hindu	--	Door-to-door	Market	4375
Marajó	I	Christian God	Virgin Mary	Christian	--	Random sample (census)	Market	11208
Mauritius	I + II	Hindu Shiva	Ghost ( <i>Nam</i> )	Hindu	Muslim	Random sample (street)	Market/ Farming	9252
Mysore	II	Hindu Shiva	Chamundeshwari	Hindu	Christian	Random sample (street)	Market	1593
Samburu	II	Christian God ( <i>Nkai</i> )	Nonavailable	Christian	<i>Samburu</i>	Random sample (households)	Herding	1377
Sursurunga	II	Christ. God ( <i>Káláu</i> )	Spirit ( <i>Sírmát</i> )	Christian	<i>Foreigner</i>	Random/chain sample (street)	Horticulture	2268
Turkana	II	Christ. God ( <i>Akuj</i> )	Ancestor spirits	Christian	<i>Turkana</i>	Door-to-door	Herding	1377
Tyva	I	Buddha Burgan	Spirit-masters ( <i>Cher eezi</i> )	Buddhist	--	Random/chain sample (street)	Market/ Herding	14612
Yasawa	I	Christian God	Ancestor spirits ( <i>Kalou-vu</i> )	Hindu	--	Door-to-door (cluster)	Fishing/ Farming	4375

Note. \*There are no Ishoko data in Wave II. GDPPC = 2016 Gross Domestic Product Per Capita in \$USD as calculated by the World Bank.

Tab. 2. Definitions of DISTANT and OUTGROUP

SITE	DISTANT	OUTGROUP
Cachoeira	A member of Candomble in Salvador	Evangelical living in Salvador
Co.Tanna	Person from another Christian village	Person from a Kastom village
Hadza	Person living in a different Hadza camp	A Datoga member (pastoralists who dwell in and around Hadzaland)
Huatasani	Person from another village – ½ Quechua Taraco or ½ Aymara Vilque Chico – who was Catholic	Person from another village – ½ Quechua Taraco or ½ Aymara Vilque Chico – who was Evangelical
In.Tanna	Person from another Kastom	Person from a Christian village
Kananga	A born-again Christian who is NOT a member of the same tribe (Luluwa)	Neither Luluwa NOR born-again Christian.
Lovu	Hindu living on Vanua Levu	--
Marajó	Christian from Rondon, either Catholic or Evangelical, depending on participants' affiliations.	--
Mauritius	Hindu from another village on the island	Muslim from a bigger town on the south of the island
Mysore	Hindu from Tamil Nadu	Christian from Tamil Nadu
Samburu	Person from Poro who shares your religion	Person from Poro who shares the same ethnic group (Samburu)
Sursurunga	Person of the same Christian denomination	Person who lived in a different part of New Ireland, much farther north, literally "foreigner/different one."
Turkana	A Turkana person you don't know who lives in and attends church in Awar Naparan.	A Turkana person living in Awar Naparan whom you don't know and who never attends church
Tyva	Person from Ak Dovurak, a familiar asbestos-mining town	--
Yasawa	A Fijian member of a church on another island	--

## 1.2 Participant exclusion criteria:

We excluded participants' game data if the money allocated between the two cups did not sum to 30 for RAGs and 10 for DGs; specifically, we excluded 30 participants from at least one RAG and 33 from at least one DG. Furthermore, we excluded 22 participants who misunderstood the procedure or did not correctly follow procedural steps. At the Kananga site, two research assistants counterfeited the results for monetary gain, thus all RAG and DG data collected by these assistants were removed (72 participants).

## 1.3 Protocol deviations:

Despite significant efforts to standardize protocol at all sites, some site-specific settings necessitated protocol deviations. We suggest that readers carefully study the individual deviations and consider them in their analyses. Furthermore, while deviations at individual sites can be easily accounted for by omitting a site from analysis or transforming scores for the particular sites, some sites that took part in both data collection waves corrected errors from Wave I during Wave II collection. Hence, we recommend paying attention to the data collection wave as well. To make this easier, we created variables WAVE (Wave I, Wave II, or both) and QUEST referring to the type of questionnaire participants filled out (Wave I type vs. Wave II type).

### 1.3.1 *Gameplay*

All sites played RAGs and DGs with cups as specified in the methods section of Lang et al. (2016) except for the Hadza site where one DG was played with LOCAL vs. OUTGROUP cups instead of DISTANT vs. OUTGROUP cups. Therefore, the Hadza are excluded from the analysis of this particular DG, and their data are included at the end of the data set. Furthermore, since the value of money is questionable for the Hadza, they played RAGs and DGs with tokens exchanged for eight ounces of maize each at the end of the gameplay. Similarly, it was not feasible to acquire the necessary amount of coins for gameplay at the Turkana site, and participants played with beans later exchanged for bills. Next, the Huatasani and Inland Tanna sites tested participants (7 in total) who self-identified as affiliated with the purported OUTGROUP's religion, thereby obscuring the meaning of the game cups. Specifically, four Inland Tanna self-identified as Christians, but we treated them as Inland Tanna due to their co-residence with other Inland Tannese, which is the most salient in-group marker in the Tannese context. At the Huatasani site, three DG participants identified themselves as Evangelical, which was an OUTGROUP designation. We, therefore, reversed their cups where possible (we changed DISTANT to OUTGROUP and vice versa) and excluded those participants from DG where the change would lead to a dyad not explored in our study (LOCAL vs. OUTGROUP). Finally, the Mauritian site did not ask about game associations during Wave II, and thus had to be excluded from models controlling for mentioning honesty in association with RAGs and DGs.

### 1.3.2 *LOCAL, DISTANT, and OUTGROUP definitions (see Tab. 2)*

At the Hadza site, the DISTANT and OUTGROUP were defined by ethnic proximity rather than religious similarity because these groups lack institutionally framed religious beliefs allowing



them to differentiate between co-religionists and OUTGROUPs from other clans. Likewise, OUTGROUPs at the Samburu, Sursurunga, and Turkana sites were defined as absenting religiosity or without mentioning their religious affiliation. We did not use ethnic OUTGROUPs at the Samburu and Turkana sites because those OUTGROUPs are often engaged in an open conflict with the local ethnic group. We did use such differentiation at the Kananga site, however, where both the DISTANT and OUTGROUP were from a different ethnic group, varying their born-again Christian affiliation. Furthermore, while LOCAL is defined as a co-residing member of the local community, which usually implies the same religious affiliation, LOCAL at the Mysore site refers to a district where Hindus co-reside with Christians. At the Huatasani site, participants played with two different types of DISTANT and OUTGROUP defined by residence in a village speaking predominantly either Aymara (Vilque Chico) or Quechua (Taraco). Nevertheless, both Vilque Chico and Taraco cups shared their respective religious affiliations (Catholic for DISTANT and Evangelical for OUTGROUP). The subsequent questions about DISTANT and OUTGROUP at the Huatasani site (CORELEMO, OUTGREMO, CORELSIM, etc.) correspond to the respective villages. The different villages are recorded in the variable DISTTOWN.Huatasani.

When asking about the size of LOCAL, DISTANT, and OUTGROUP communities, participants were often able to respond only in ranges, verbal descriptions (“a few”, “many”), percentages, or saying “more than” or “less than” specific number. In the first case, we converted the ranges to middle values; verbal descriptions were coded as “do not know”; percentages were converted to numbers using the size of respective communities as estimated by local governmental sources; and, in the last case, we just retained the reported number as the closest estimate of participants’ perception (without the “more” or “less” designations). We were unable to convert percentages to the number of community members at the Kananga site because DISTANT was defined along ethnic lines rather than residence. Finally, during Wave I, the Hadza answered the variables INGREMO, CORELEMO, and OUTGREMO with a different scale than during Wave II. Since some participants took part in both waves, we did not merge these variables for the Hadza and instead stored the Wave I variables as INGREMOH, CORELEMOH, and OUTGREMOH.

### *1.3.3 Priming*

Our aim was to investigate the effects of priming participants with supernatural concepts on behavior in economic games. However, note that used priming materials substantially differed among sites. Four of our sites (Cachoeira, Mauritius, Sursurunga, Yasawa) used contextual priming in the RAGs (games were played inside a temple and a control location), while other sites used religious/secular imagery printed on a mat/tablecloth (Coastal and Inland Tanna, Kananga, Huatasani, and Mauritius DG); religious/secular material objects (Cachoeira DG, Lovu, Marajó, Mysore, Turkana, Tyva); or verbal priming (Sursurunga DG). Importantly, some sites did not use control objects/primes (Mysore in RAGs; and Mysore, Cachoeira, and

Sursurunga in DGs). Apart from these priming materials, half of the participants at the Huatasani site played RAGs and DGs in a parish area, which may have additional priming effects. These participants are coded in the variable LOCATION.RELIG.

#### *1.3.4 Demographic questions*

Since the Hadza do not count, their age is only estimated and sometimes differ by several years between the Wave I and Wave II collection. Likewise, Apicella asked the Hadza to name their children's names and count those names rather than asking the Hadza for the number of children. However, despite this assurance mechanism, some individuals increased their number of children between the collection waves by a number exceeding physiological possibilities. When data from Wave I collection were available, we kept those in the data set and used new data only for participants who did not participate in Wave I. The variable NATLANG had five items, but due to a clerical error, participants at the Sursurunga site were asked question with six items. We converted the middle values (2 and 3) specified as "well" and "good" into one variable "well", which was in the original scale (two participants affected). The Hadza answered only MAT1 question during Wave II from the material insecurity question set (as opposed to Wave I where they answered also MAT3). Finally, questions on FAMILY, HOWLONG, BIRTHPLACE, GROWUP, and CITYYRS sometimes contain answers in words rather than numbers. Generally, we suggest recoding these answers as "NA" since it is often difficult to assign an exact numeric value to these responses. However, the answers to FAMILY variable in Marajó stating "amaziado" (which means "living together") could be recoded as 1 for "single" or 3 for "engaged." The answers in the Tyva Republic including "chadaana" might be recoded, depending on one's definition of "urbanity". Chadaana (or Chadana) is a village of about 9,000 people in central Tyva.

#### *1.3.5 Religiosity questions*

Participants in Marajó, Cachoeira, Sursurunga, and the Tyva Republic used a five-item frequency scale (4 = every day or multiple times per day; 3 = a few times per week; 2 = a few times per month; 1 = a few times per year; and 0 = very rarely/never) instead of a four-item frequency scale when asking about variables BGFREQW, BGSTEAL, BGLYING, BGMURDER, BGREWARD and their LG equivalents. To account for these discrepancies, we suggest dividing each affected variable by the maximum value at each site, creating variables BGFREQW2, BGSTEAL2, BGLYING2, BGMURDER2, BGREWARD2 and their LG equivalents. Coastal and Inland Tanna had the same problem with variables BGFREQW and LGFREQW during Wave I. Furthermore, there was a clerical error in the four-point frequency scale in Coastal Tanna during Wave I, rendering the last two scale items virtually indistinguishable. This issue concerns BGSTEAL, BGMURDER, BGLYING, BGREWARD and their LG equivalents. Thus, including this data collection (e.g., BGREWARD[QUEST == 1] in Coastal Tanna) in the analysis should take this error into account. Finally, the Huatasani site differed in the BGBP and LGBP variables because the researcher at this site offered participants a fourth item that could not be recoded into a three-item scale, and thus the site should be omitted from models that include the BGBP and LGBP variables.

The Hadza answered religiosity questions using four- or five-point scales only as “yes” and “no” due to their difficulty with continuous measures. Furthermore, while we asked the Hadza during the Wave I collection about *Haine* (a moralistic god) and *Ishoko* (a local god), the results and subsequent interviews revealed that most participants (82%) do not differentiate between these two gods. We chose to ask only about *Haine* in Wave II. Likewise, we could not identify a local god at the Samburu and Lovu sites. The Huatasani and Kananga sites, on the other hand, have two different local gods. When conducting our preliminary religious landscape interviews, participants indicated selecting *Apus* (local spirits living in the mountains) in Huatasani and *Kadima* in Kananga. However, during subsequent data collection, many participants were not familiar with these local gods and were instead asked about Christian saints in Huatasani and local spirits in Kananga. We recorded the type of LG in the variable LGTYPE. Finally, during Wave II the Hadza answered the POLEVAL variable with “good” or “bad” instead of by numbers on a [-2, 2] scale. However, in Wave 1, the answers to this question were coded as “bad”, “D/K”, and “good” using numbers [-1,0,1] and are stored as POLEVALH. Since some participants took part in both waves, we did not merge this variable for the Hadza. Likewise, the Hadza answered the questions BGTHINK, BGFREQW, BGSTEAL, BGLYING, BGMURDER, BGREWARD with a different scale during Wave I compared to the rest of the sites (and did not answer these questions during Wave II). Hence, we store these answers separately as BGTHINKH, BGFREQWH, BGSTEALH, BGLYINGH, BGMURDERH, BGREWARDH.

## 2. Codebook and Notes

**Note on variable names.** To be consistent with previous data collections and the original materials distributed to researchers, we kept the original variable names referring to gameplay and religious survey. However, in our latest publications, we used the following nomenclature and recommend using the same in future projects:

Moralizing god = BIG GOD in previous materials

LOCAL = INGROUP in previous materials

DISTANT = COREL in previous materials

Thus, variables referring to the LOCAL games usually contain “ING” or “INGROUP” and variables referring to the DISTANT games usually contain “COREL”. Similarly, variables referring to moralizing god characteristics use an abbreviation “BG”.

†† Questions asked only during Wave II data collection

CODE	DESCRIPTION	DATA
<b>SITE</b>	Data collection site	string
<b>CID</b>	Individual participant ID	string
<b>WAVE</b>	Took part in first, second, or both waves	1 = Wave I; 2 = Wave II; 3 = Wave I + II
<b>QUEST</b>	Type of questionnaire administered	1 = Wave I; 2 = Wave II;
<b>RESEARCHER</b>	Name of the lead researcher at a specific site	string
<b>RAG.DATE</b>	Date of RAG	date
<b>RAG.TIME</b>	Time of RAG	time
<b>RAG.LOCATION</b>	Place where RAG was conducted	string
<b>RAG.SESSNUM</b>	RAG session number of the day	number
<b>RAG.TREATMENT</b>	Prime condition for RAG	0 = no prime; 1 = control prime; 2 = Moralistic God prime; 3 = Local God prime
<b>RAG.ORDER</b>	Order of RAG (first two)	12 = LOCAL vs DISTANT game first; 21= SELF vs DISTANT game first; 321; Tyva variant (SELF vs. INGROUP)

<b>RAG.INGFIRST</b>	RAG played Local Community Game first	0 = SELF game first; 1 = LOCAL game first
<b>RAG.EXUSED1</b>	Number of examples used for RAG1	number
<b>RAG.INGROUP1<sup>1</sup></b>	RAG Allocation to LOCAL	amount
<b>RAG.COREL1</b>	RAG Allocation to DISTANT	amount
<b>RAG1.NOSUM</b>	RAG Cups did not sum up to 30	NA = no or does not apply; 1 = yes
<b>RAG.EXUSED2</b>	Number of examples used for RAG2	number
<b>RAG.SELF2</b>	RAG Allocation to SELF	amount
<b>RAG.COREL2</b>	RAG Allocation to DISTANT	amount
<b>RAG2.NOSUM</b>	RAG2 Cups did not sum up to 30	NA = no or does not apply; 1 = yes
<b>RAG.ORDER2††</b>	RAG Order of RAG (second two)	34 = DISTANT vs OUTGROUP game first; 43 = SELF vs OUTGROUP game first
<b>RAG.INGFIRST2</b>	RAG played Local Community Game first	0 = SELF game first; 1 = DISTANT game first
<b>RAG.EXUSED3††</b>	Number of examples used for RAG3	number
<b>RAG.COREL3††</b>	RAG Allocation to COREL	amount
<b>RAG.OUTGROUP3††</b>	RAG Allocation to OUTGROUP	amount
<b>RAG3.NOSUM††</b>	RAG3 Cups did not sum up to 30	NA = no or does not apply; 1 = yes
<b>RAG.EXUSED4††</b>	Number of examples used for RAG4	number
<b>RAG.INGROUP4††</b>	RAG Allocation to LOCAL	amount
<b>RAG.OUTGROUP4††</b>	RAG Allocation to OUTGROUP	amount
<b>RAG4.NOSUM††</b>	RAG4 Cups did not sum up to 30	NA = no or does not apply; 1 = yes
<b>RAG.OUTOFPOCKET</b>	Participants contributed money from their pocket to the RAG	0 = no; 1 = yes
<b>RAG.POCKET</b>	Participants pocketed money from the RAG	0 = no; 1 = yes
<b>RAG.EXCLUDE</b>	Exclude participant from RAG analysis	0 = no; 1 = yes
<b>RAG.GA1</b>	What did the RAG remind you of in real life?	string

<sup>1</sup> Note that variables related to cup allocations (e.g., RAG.INGROUP1, RAG.COREL1) have numbers at the end. These numbers always refer to a pair of cups (e.g., 1 = LOCAL vs DISTANT) that participants decided between when allocating endowed money. Hence, the value of variables referring to cup allocations with the same number at the end should always sum up to 30 for RAG and to 10 for DG. Since these variables are symmetric, one can choose which of the two use in the analyses (we opted to model the less parochial cups, using variables RAG.COREL1, RAG.COREL2, RAG.OUTGROUP3, RAG.OUTGROUP4 for the analyses of the RAGs and likewise for DGs).

<b>RAG.RELREMINDE</b>	Coded answers – RAG remind of religion	0 = no; 1 = yes
<b>RAG.GA2</b>	What do you think this study is about?	string
<b>RAG.GA3</b>	What does the [priming] object remind you of?	string
<b>RAG.HONEST13</b>	Mentioned honesty, cheating, or fairness in GA2 in Wave I data (should be used for RAG1-2)	0 = no; 1 = yes
<b>RAG.HONEST††</b>	Mentioned honesty, cheating, or fairness in GA2 (should be used for RAG 3-4)	0 = no; 1 = yes
<b>RAG.NOTES</b>	Notes on the RAG	string
<b>DG.DATE</b>	Date of DG experiment	date
<b>DG.TIME</b>	Time of DG experiment	time
<b>DG.LOCATION</b>	Place where DGs were conducted	string
<b>DG.SESSNUM</b>	Session number of the day (i.e., how many DG sessions were done)	number
<b>DG.TREATMENT††</b>	Prime condition for DG	0 = no prime; 1 = control prime; 2 = Moralizing God prime; 3 = Local God prime; 4 = secular authority prime
<b>DG.ORDER††</b>	Order of DGs	order of DGs
<b>DG.ORDCODE††</b>	Code of DG order	1 = DG1 first; 2 = DG2 first; 3 = DG3 first; 4 = DG4 first
<b>DIDRAG††</b>	DG Participant took part in RAGs	0 = no; 1 = yes
<b>DG.INGROUP1††</b>	DG Allocation to LOCAL	amount
<b>DG.COREL1††</b>	DG Allocation to DISTANT	amount
<b>DG1.NOSUM††</b>	DG Cups did not sum up to 10	0 = no; 1 = yes
<b>DG.SELF2††</b>	DG Allocation to SELF	amount
<b>DG.COREL2††</b>	DG Allocation to DISTANT	amount
<b>DG2.NOSUM††</b>	DG Cups did not sum up to 10	0 = no; 1 = yes
<b>DG.COREL3††</b>	DG Allocation to DISTANT	amount
<b>DG.OUTGROUP3††</b>	DG Allocation to OUTGROUP	amount
<b>DG3.NOSUM††</b>	DG Cups did not sum up to 10	0 = no; 1 = yes
<b>DG.INGROUP4††</b>	DG Allocation to LOCAL	amount
<b>DG.OUTGROUP4††</b>	DG Allocation to OUTGROUP	amount

<b>DG4.NOSUM††</b>	DG Cups did not sum up to 10	0 = no; 1 = yes
<b>DG.OUTOFPOCKET††</b>	Participants contributed money from their pocket to the DG	0 = no; 1 = yes
<b>DG.POCKET††</b>	Participants pocketed money from the DG	0 = no; 1 = yes
<b>DG.EXCLUDE††</b>	Exclude participant from DG analysis	0 = no; 1 = yes
<b>DG.GA1††</b>	What did the DG remind you of in real life?	string
<b>DG.RELREMINDE</b>	Coded answers – DG remind of religion	0 = no; 1 = yes
<b>DG.GA2††</b>	What do you think this study is about?	string
<b>DG.GA3††</b>	What does the [priming] object remind you of?	string
<b>DG.HONEST††</b>	Mentioned honesty, cheating, or fairness in GA2	0 = no; 1 = yes
<b>DG. NOTES</b>	Notes on the DG	string
<b>DEMOG.DATE</b>	Date of demographic survey	date
<b>DEMOG.TIME</b>	Time of demographic survey	time
<b>DEMOG.LOCATION</b>	Place where the demographic survey was conducted	string
<b>SEX</b>	Sex: Male/Female	0 = female; 1 = male
<b>AGE13</b>	Age at 2013 data collection for Wave I participants in (should be used for RAG 1-2)	Age
<b>AGE</b>	Age at 2015 data collection for Wave I + II collections (should be used for RAG 3-4 and DG 1-4)	Age
<b>OCCUP</b>	Occupation	string
<b>FAMILY</b>	Family status	1 = single; 2 = married; 3 = engaged; 4 = divorced; 5 = widowed; 6 = other
<b>LIVE</b>	Where do you live (district, town, or region)?	location
<b>HOWLONG</b>	How long have you lived here?	# of years
<b>BIRTHPLACE</b>	Was your birthplace rural or urban?	0 = rural; 1 = urban
<b>GROWUP</b>	Was where you grew up rural or urban?	0 = rural; 1 = urban
<b>CITYYRS</b>	For how many years total have you lived in a town/city?	# of years
<b>CHILDREN</b>	How many children have you given birth	# of children

	to/fathered?	
<b>FORMALED</b>	Total years of formal education?	# of years
<b>HOUSEHOLD</b>	How many people are in your household? (family that lives with you)	# of people in household
<b>NATLANG</b>	How well do you speak [ <b>NATIVE LANGUAGE</b> ]?	0 = I don't speak native language; 1 = not well; 2 = well; 3 = very good; 4 = fluent
<b>MAT1</b>	Do you worry that in the next month your household will have a time when it is not able to buy or produce enough food to eat?	0 = no; 1 = yes
<b>MAT1C</b>	How certain are you that you will be able to buy or produce enough food to eat in the next month?	-2 = very uncertain; -1 = a little uncertain; 0 = I don't know; 1 = a little certain; 2 = very certain
<b>MAT2</b>	Do you worry that in the next six months your household will have a time when it is not able to buy or produce enough food to eat?	0 = no; 1 = yes
<b>MAT2C</b>	How certain are you that you will be able to buy or produce enough food to eat in the next six months?	-2 = very uncertain; -1 = a little uncertain; 0 = I don't know; 1 = a little certain; 2 = very certain
<b>MAT3</b>	Do you worry that in the next year your household will have a time when it is not able to buy or produce enough food to eat?	0 = no; 1 = yes
<b>MAT3C</b>	How certain are you that you will be able to buy or produce enough food to eat in the next year?	-2 = very uncertain; -1 = a little uncertain; 0 = I don't know; 1 = a little certain; 2 = very certain
<b>MAT4</b>	Do you worry that in the next five years your household will have a time when it is not able to buy or produce enough food to eat?	0 = no; 1 = yes
<b>MAT4C</b>	How certain are you that you will be able to buy or produce enough food to eat in the next five years?	-2 = very uncertain; -1 = a little uncertain; 0 = I don't know; 1 = a little certain; 2 = very certain
<b>DEMOG. NOTES</b>	Notes on demography questions	string
<b>SURVEY.DATE</b>	Date of religiosity survey	date
<b>SURVEY.TIME</b>	Time of religiosity survey	time



<b>SURVEY.LOCATION</b>	Place where religiosity survey was conducted	string
<b>BGLG1ST</b>	Participant asked first about <b>BIG GOD</b>	0 = no; 1 = yes
<b>PRAY††</b>	How often do you pray?	4 = every day or mult. times per day; 3 = a few times per week; 2 = a few times per month; 1 = a few times per year; 0 = very rarely/never
<b>BGRIT††</b>	How often do you perform rituals or ceremonies devoted to <b>BIG GOD</b> ?	4 = every day or mult. times per day; 3 = a few times per week; 2 = a few times per month; 1 = a few times per year; 0 = very rarely/never
<b>LGRIT††</b>	How often do you perform rituals or ceremonies devoted to <b>LOCAL GOD</b> ?	4 = every day or mult. times per day; 3 = a few times per week; 2 = a few times per month; 1 = a few times per year; 0 = very rarely/never
<b>BGBLV††</b>	Do you believe in <b>BIG GOD</b> ?	0 = no; 1 = yes
<b>LGBLV††</b>	Do you believe in <b>LOCAL GOD</b> ?	0 = no; 1 = yes
<b>BGBP††</b>	If you had to pick one, which is more important to you?	That people participate in rituals devoted to <b>BIG GOD</b> = 1; That people believe in <b>BIG GOD</b> = 2; Neither are important to me=3
<b>LGBP††</b>	If you had to pick one, which is more important to you?	That people participate in rituals devoted to <b>BIG GOD</b> = 1; That people believe in <b>BIG GOD</b> = 2; Neither are important to me=3
<b>BGTHINK</b>	How often do you think about <b>BIG GOD</b> ?	4 = every day or mult. times per day; 3 = a few times per week; 2 = a few times per month; 1 = a few times per year; 0 = very rarely/never
<b>BGPERF</b>	Do you perform activities or practices to talk to, or appease <b>BIG GOD</b> ?	0 = no; 1 = yes
<b>BGPERFHO</b>	If yes, how often? ( (a) Daily, (b) weekly, (c) month, (d) annually, (e) other_____)	4 = every day or mult. times per day; 3 = a few times per week; 2 = a few times per month; 1 = a few times per year; 0 = very rarely/never
<b>LGTHINK</b>	How often do you think about <b>LOCAL GOD</b> ?	4 = every day or mult. times per day; 3 = a few times per week; 2 = a few times per month; 1 = a few times per year; 0 = very rarely/never
<b>LGPERF</b>	Do you perform activities or practices to talk to, or appease <b>LOCAL GOD</b> ?	0 = no; 1 = yes

<b>LGPERFHO</b>	If yes, how often? ( (a) Daily, (b) weekly, (c) month, (d) annually, (e) other_____)	4 = every day or mult. times per day; 3 = a few times per week; 2 = a few times per month; 1 = a few times per year; 0 = very rarely/never
<b>BGFREQW<sup>2</sup></b>	How frequently do you worry about what <b>BIG GOD</b> thinks about you?	0 = never; 1 = sometimes; 2 = frequently; 3 = all the time;
<b>BGPUNISH</b>	Does <b>BIG GOD</b> ever punish people for their behavior?	0 = no; 1 = yes
<b>BGPUNHO††</b>	What kinds of things does BIG GOD punish people for doing?	string
<b>BGSTeAL<sup>3</sup></b>	How often does <b>BIG GOD</b> punish people for <u>stealing</u> ?	0 = never; 1 = sometimes; 2 = frequently; 3 = all the time;
<b>BGSTeALIMP</b>	How important is punishing thieves to BIG GOD?	(0) Not important at all, (1) A little important, (2) Important, (3) Very important, (4) The most important thing.
<b>BGLYING<sup>3</sup></b>	How often does <b>BIG GOD</b> punish people for <u>lying</u> ?	0 = never; 1 = sometimes; 2 = frequently; 3 = all the time;
<b>BGLIEIMP</b>	How important is punishing liars to BIG GOD?	(0) Not important at all, (1) A little important, (2) Important, (3) Very important, (4) The most important thing.
<b>BGMURDER<sup>3</sup></b>	How often does <b>BIG GOD</b> punish people for <u>murder</u> ?	0 = never; 1 = sometimes; 2 = frequently; 3 = all the time;
<b>BGMURDIMP</b>	How important is punishing murderers to BIG GOD?	(0) Not important at all, (1) A little important, (2) Important, (3) Very important, (4) The most important thing.
<b>BGFEEL</b>	Can <b>BIG GOD</b> see into people's hearts or know their thoughts and feelings? (1= yes, 0 = no)	0 = no; 1 = yes
<b>BGSEE</b>	Can <b>BIG GOD</b> see what people are doing if they are far away, in _____[in distance	0 = no; 1 = yes

<sup>2</sup> For Cachoeira, Coastal Tanna (Wave I), Inland Tanna (Wave I), Marajo, Sursurunga, and Tyva Republic these questions were (0) very rarely/never; (1) a few times per year; (2) a few times per month; (3) a few times per week; (4) every day or multiple times per day. One way to normalize the data is to divide values by the maximum possible values in each site.

<sup>3</sup> For Cachoeira, Marajo, Sursurunga, and Tyva Republic these questions were (0) very rarely/never; (1) a few times per year; (2) a few times per month; (3) a few times per week; (4) every day or multiple times per day. One way to normalize the data is to divide values by the maximum possible values in each site.

	town or city familiar to locals; further is better)	
<b>BGREWARD<sup>3</sup></b>	How often does <b>BIG GOD</b> assist people in their lives or reward them for proper behavior?	0 = never; 1 = sometimes; 2 = frequently; 3 = all the time;
<b>BGDIE</b>	Can <b>BIG GOD</b> influence what happens to people after they die? (yes =1, no = 0)	0 = no; 1 = yes
<b>BGSTRANGER</b>	Does <b>BIG GOD</b> care about how people treat strangers? (yes =1, no = 0)	0 = no; 1 = yes
<b>BGOTHERRIT</b>	Does <b>BIG GOD</b> care about how people treat other people who perform rituals for <b>BIG GOD</b> (yes =1, no = 0)	0 = no; 1 = yes
<b>BGPERFC</b>	Does <b>BIG GOD</b> care about whether people perform certain rituals? (yes =1, no = 0)	0 = no; 1 = yes
<b>BGMON††</b>	Does <b>BIG GOD</b> care about some people having more money and food than other people?	0 = no; 1 = yes
<b>LGFREQW<sup>2</sup></b>	How frequently do you worry about what <b>LOCAL GOD</b> thinks about you?	0 = never; 1 = sometimes; 2 = frequently; 3 = all the time;
<b>LGPUNISH</b>	Does <b>LOCAL GOD</b> ever punish people for their behavior? [yes = 1, no = 0]	0 = no; 1 = yes
<b>LGPUNHO††</b>	What kinds of things does <b>LOCAL GOD</b> punish people for doing?	string
<b>LGSTEAL<sup>3</sup></b>	How often does <b>LOCAL GOD</b> punish people for <u>stealing</u> ?	0 = never; 1 = sometimes; 2 = frequently; 3 = all the time;
<b>LGSTEALIMP</b>	How important is punishing thieves to <b>LOCAL GOD</b> ?	(0) Not important at all, (1) A little important, (2) Important, (3) Very important, (4) The most important thing.
<b>LGLYING<sup>3</sup></b>	How often does <b>LOCAL GOD</b> punish people for <u>lying</u> ?	0 = never; 1 = sometimes; 2 = frequently; 3 = all the time;
<b>LGLIEIMP</b>	How important is punishing liars to <b>LOCAL GOD</b> ?	(0) Not important at all, (1) A little important, (2) Important, (3) Very important, (4) The most important thing.
<b>LGMURDER<sup>3</sup></b>	How often does <b>LOCAL GOD</b> punish people for <u>murder</u> ?	0 = never; 1 = sometimes; 2 = frequently; 3 = all the time;
<b>LGMURDIMP</b>	How important is punishing murderers to	(0) Not important at all, (1) A little important, (2)

	LOCAL GOD?	Important, (3) Very important, (4) The most important thing.
<b>LGFEEL</b>	Can <b>LOCAL GOD</b> see into people's hearts or know their thoughts and feelings? (1= yes, 0 = no)	0 = no; 1 = yes
<b>LGSEE</b>	Can <b>LOCAL GOD</b> see what people are doing if they are far away, in _____[in distance town or city familiar to locals; further is better)	0 = no; 1 = yes
<b>LGREWARD<sup>3</sup></b>	How often does <b>LOCAL GOD</b> assist people in their lives or reward them for proper behavior?	0 = never; 1 = sometimes; 2 = frequently; 3 = all the time;
<b>LGDIE</b>	Can <b>LOCAL GOD</b> influence what happens to people after they die? (yes =1, no = 0)	0 = no; 1 = yes
<b>LGSTRANGER</b>	Does <b>LOCAL GOD</b> care about how people treat strangers? (yes =1, no = 0)	0 = no; 1 = yes
<b>LGOTHERRIT</b>	Does <b>LOCAL GOD</b> care about how people treat other people who perform rituals for <b>LOCAL GOD</b> (yes =1, no = 0)	0 = no; 1 = yes
<b>LGPERFC</b>	Does <b>LOCAL GOD</b> care about whether people perform certain rituals? (yes =1, no = 0)	0 = no; 1 = yes
<b>LGMON††</b>	Does LOCAL GOD care about some people having more money and food than other people?	0 = no; 1 = yes
<b>POLEVAL</b>	Most members of the police are...	-2=extremely bad; =1=bad; 0=neither good nor bad; 1=good; 2=extremely good
<b>CORELEMO</b>	Using these pictures, how emotionally close do you feel to a DISTANT?	1 = completely separate to 5 = completely part of
<b>INGREMO</b>	Using these pictures, how emotionally close do you feel toward an LOCAL?	1 = completely separate to 5 = completely part of
<b>OUTGREMO</b>	Using these pictures, how emotionally close do you feel toward an OUTGROUP?	1 = completely separate to 5 = completely part of
<b>RELCOR††</b>	What kind of relations do LOACL have with DISTANT?	-2 = very bad; 1 = a little bad; 0 = I don't know/neutral; 1 = a little good; 2 = very good
<b>RELOUT††</b>	What kind of relations to LOCAL have with OUTGROUP?	-2 = very bad; 1 = a little bad; 0 = I don't know/neutral; 1 = a little good; 2 = very good

<b>CORELSIM</b>	How similar are DISTANT's traditions/religious beliefs and practices with the LOCAL?	2 = very similar; 1 = similar; 0 = same; -1 = different; -2 = very different
<b>OUTSIM</b>	How similar are OUTGROUP's traditions/religious beliefs and practices with the LOCAL?	2 = very similar; 1 = similar; 0 = same; -1 = different; -2 = very different
<b>INNUM</b>	How many people make up the LOCAL?	number
<b>CONUM</b>	How many people make up the DISTANT?	number
<b>OUTNUM</b>	How many people make up the OUTGROUP?	number
<b>SURVEY. NOTES</b>	Notes on religiosity survey	string
<b>LOCATION.RELIG</b>	Games/interviews played in a parish location (Huatasani)	0 = no; 1= yes
<b>RELCAT</b>	Person affiliated to BG religion (Huatasani & Inland Tanna sites)	0 = no; 1= yes
<b>LANG.Huatasani</b>	Language spoken: Aymara/Quechua (Huatasani)	1 = Quechua; 2 = Aymara
<b>DISTTOWN.Huatasani</b>	Type of DISTANT/OUTGROUP (Huatasani)	1 = Vilque Chicho; 2 = Taraco
<b>LGTYPE</b>	The type of local god at Huatasani & Kananga sites	1 = Apus; 2 = Saints; 3 = Kadima; 4 = Ancestors
<b>MISSIONARY</b>	Have a missionary ever tried to convert you? (Hadza site)	0 = no; 1= yes
<b>INGROUP3</b>	Donation to LOCAL cup in DG3 (Hadza)	0-10
<b>OUTGROUP3</b>	Donation to OUTGROUP cup in DG3 (Hadza)	0-10
<b>BGTHINKH</b>	Do you think about BIG GOD?	(-1) no; (0) don't know; (1) yes
<b>BGFREQWH</b>	Does BIG GOD think about you?	(-1) no; (0) don't know; (1) yes
<b>BGSTALH</b>	Does BIG GOD punish people for stealing?	(-1) no; (0) don't know; (1) yes
<b>BGLYINGH</b>	Does BIG GOD punish people for lying?	(-1) no; (0) don't know; (1) yes
<b>BGMURDERH</b>	Does BIG GOD punish people for murder?	(-1) no; (0) don't know; (1) yes
<b>BGREWARDH</b>	Does BIG GOD help people or give them gifts for being good?	(-1) no; (0) don't know; (1) yes
<b>LGTHINKH</b>	Do you think about LOCAL GOD?	(-1) no; (0) don't know; (1) yes
<b>LGREQWH</b>	Does LOCAL GOD think about you?	(-1) no; (0) don't know; (1) yes
<b>LGSTALH</b>	Does LOCAL GOD punish people for stealing?	(-1) no; (0) don't know; (1) yes
<b>LGLYINGH</b>	Does LOCAL GOD punish people for lying?	(-1) no; (0) don't know; (1) yes

<b>LGMURDERH</b>	Does LOCAL GOD punish people for murder?	(-1) no; (0) don't know; (1) yes
<b>LGREWARDH</b>	Does LOCAL GOD help people or give them gifts for being good?	(-1) no; (0) don't know; (1) yes
<b>POLEVALH</b>	Do you think the POLICE are good, bad, or don't know?	(-1) bad; (0) don't know; (1) good
<b>CORELEMOH</b>	Using these pictures, how emotionally close do you feel to a DISTANT?	0 (completely separate to) to 4 (completely part of)
<b>INGREMOH</b>	Using these pictures, how emotionally close do you feel toward an LOCAL?	0 (completely separate to) to 4 (completely part of)
<b>OUTGREMOH</b>	Using these pictures, how emotionally close do you feel toward an OUTGROUP?	0 (completely separate to) to 4 (completely part of)