Explaining Atheism: Pilot 1 Preregistration

INSERT DATE

# Study Information

## Title

Explaining Atheism: Pilot 1 Preregistration

## Description

The present work is part of the broader Explaining Atheism project, which looks to examine popular and scientific causes of belief/non-belief and how these vary across cultures.

Across 3 stages we will examine variables which have been argued in popular and scientific discourse to cause belief and non-belief. In this initial pilot we will look at the largest number of variables in order to test some of the clearest hypotheses and to run explanatory tests to exclude possible variables for the later stages of the project which will have larger samples and a greater proportion of confirmatory tests.

Additional preregistration for this initial pilot, and follow on pilots can be found on our pages on the [Open Science Framework](https://osf.io/df6m8/), our [Figshare](https://figshare.com/projects/Explaining_Atheism/157323), and on my personal [GitHub](https://github.com/cjsrussell/ea_preregs).

This pre-registration is for analysis of our first pilot data, with analyses looking to include or exclude variables for later stages. Here we look at the most popular explanations of belief/non-belief and whether they predict a number of different measures related to belief/non-belief

## Hypotheses

The current pre-registration is for exploratory analyses, as such no explicit directional hypotheses are tested. We will instead be testing the hypotheses of our explanatory variables having an effect on one or more outcome variables.

Specifically, we will look at whether the following clusters of explanatory variables (see “Variables” below) have an effect on the following outcome variables:

***Morals/ Values:***

Belief in God; Agnosticism; Religious Identity; Religious Attendance; Moral Vitalism

***Cognitive Styles:***

Belief in God; Agnosticism; Religious Identity; Religious Attendance; Religious Tokens; Karma

***Socialisation***

***Cognitive Biases***

***Motivational***

# Design Plan

## Study type

**Observational (Survey) Study**

## Blinding

No blinding is involved in this study.

## Study design

This study uses a survey design.

This pilot will run 5 separate surveys, one for each of the explanatory variable clusters, in the UK, Japan and Brazil. Survey 5 will also be run in Denmark. The results in 16 independent survey samples.

## Randomization

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## Sampling Plan

We will collect representative samples for each survey for each nation. This will be done by an independent survey company, and the samples will be representative for the national population by Age, Sex and Geographic Region.

## Existing data

**Registration prior to creation of data**.

As of the date of submission of this preregistration, the data have not yet been collected, created, or analysed.

## Data collection procedures

Participants are recruited by the independent survey company, Savanta Comres, from their pool of participants. Participants will be paid a local rate for their participation, and will be selected to meet representativeness requirements outlined above.

***Exclusion criteria***

## Sample size

The sample size used is 500 per survey per nation.

Brazil = 2500

UK = 2500

Japan = 2500

Denmark = 500

## Sample size rationale

Samples are the maximally viable sample for the financial means of the project.

# Variables

Please find below a list of each variable measured in the study. A background for each of these, along with their operationalisations, subscales, and scripts to score these can be found in the codebook accompanying the pre-registration.

## Explanatory Variables

#### Morals/ Values

* Individualism and Collectivism
* Rebelliousness
* Individual Choice Norms

#### Cognitive Style

* Tolerance of Ambiguity
* Thinking Style
* Non-Verbal Reasoning
* Moralisation of Rationality
* Importance of Rationality

#### Socialisation

* CREDs
* CRUDs
* Non-theistic Socialisation
* Normativity of Religion
* Religious Emphasis
* Familial Dysfunction

#### Motivational

* Social Desirability
* Existential Security
* Need for Structure
* Death Anxiety
* Social Network Size
* Need for Meaning
* Disgust Sensitivity

#### Cognitive Bias

* Anthropomorphism
* Mentalizing
* Dualism
* Pattern Perception
* Promiscuous Teleology
* Schizotypy
* Vividness of Mental Imagery
* Dissociative Absorption

## Outcome Variables

#### ISSP

* Belief in God (categorical)

#### Religious Identity

* Religious Membership
  + If so which

#### Religious Practice

* Service attendance
* Prayer frequency
* Religious objects

#### Supernatural Belief

* Life After Death
* Astrology Belief
* Mystical Powers Belief
* Universal Forces Belief
* Karmic Belief
* Supernatural Beings Belief
* Afterlife Belief
* Evil Eye Belief
* Luck Belief

#### General Belief

* Belief in God (continuous)
* Confidence in Belief
* Anti Religiosity
* Religious Apatheism
* Agnosticism
* Possibility of Knowing

## Indices

Code and scoring methods are included for each variable in the accompanying codebook.

# Analysis Plan

### Exploratory Analysis Plan

## Statistical models

To examine the possible relationships between our explanatory and our outcome variables we will run bayesian multiple regression models using the ‘*brms*’ package.

For binary outcomes we will use logistic regression. For example, the following logistic model of the binary “Religious Identification” outcome variable and Morals/Values explanatory variables might be specified roughly as follows:

library("brms")  
  
exampleLogisticModel<-   
 brm(formula = religiousIdentification ~ individualism +  
 rebelliousness +  
 choiceNorms,  
 prior = prior,  
 data = data,   
 family = bernoulli(link = "logit"),  
 iter = 10000,  
 seed = 2023)

For ordinal outcomes (likert responses) we will use ordinal probit regression. For example, the following logistic model of the binary “Religious Identification” outcome variable and Morals/Values explanatory variables might be specified roughly as follows:

exampleOrdinalModel<-   
 brm(formula = beliefInGod ~ toleranceOfAmbiguity +  
 thinkingStyle +  
 nonVerbalReasoning +  
 moralisationOfRationality +  
 importanceOfRationality,  
 prior = prior,  
 data = data,   
 family = cumulative("probit"),  
 iter = 10000,  
 seed = 2023)

### Priors

We will set the following uninformative priors for our outcome variables:

## Transformations

Enter your response here.

## Inference criteria

## Data exclusion

Enter your response here.

## Missing data

Enter your response here.

## Exploratory analyses (optional)

Enter your response here.

# Other

## Other (Optional)

Enter your response here.

# References