Supplement: Origins of Disbelief

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Contents

```r
library(rethinking)

library(tidyverse)

library(ggridges)
```

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Preregistration

13 We preregistered a series of analyses. Here, we lay out models and model summaries for all of these analyses.
14 Here's what we preregistered:

15 "We will perform a series of 7 confirmatory tests on the full sample. Each model will be run
16 twice: first with no covariates, then including age, gender, politics, education, & personality as
17 covariates."

18 This entails a series of models:

19 1. Does each factor independently replicate?

20 1. We will replicate mentalizing in a model with mentalizing (linear and quadratic terms) predicting
21 religion.
22 2. We will replicate motivation in a model with the motivation items predicting religion.
23 3. We will replicate cultural learning in a model with CREDs predicting religion.
24 4. We will replicate cognitive style in a model with the CRT predicting religion.

25 2. Relative contributions?

26 5. We will run a model with all four factors predicting religion.

27 3. Specific hypothesized interactions?

28 6. To test whether cognitive style's effects differ across cultural learning, we will have a model in
29 which CRT, CREDs, and their interaction predict religion.
30 7. To test the hypothesis that mentalizing is especially important in the context of cultural learning
31 and motivation, we will have a model with mentalizing, CREDs, motivation and the mentalizing-
32 by-CREDs and mentalizing-by-motivation interaction terms predicting religion.

33 The main manuscript summarizes our full model (all four primary predictors plus covariates), a binary
34 full model, the cultural learning-by-cognitive reflection interaction, and essentially zero-order replication
35 analyses. Here, we spell out all preregistered analyses.

1. Does each factor independently replicate?

1. We will replicate mentalizing in a model with mentalizing (linear and quadratic terms) predicting religion.

With covariates

```
ment_cv <- map2stan(
  alist(
    disbelief ~ dnorm(mu, sigma),
    mu <- a + b_ment*ment_lo + b_mentQuad*ment_lo^2 + b_age*ageZ + b_educ*educZ + b_female*femZ + b_soci
    c(a, b_ment, b_mentQuad, b_age, b_educ, b_female, b_social_cons, b_econ_cons, b_eXtra, b_Consc, b_N
    sigma ~ dcauchy(0, 1)
  ), data=dment_cv, WAIC = F, chains = 1, cores = 1,
  iter = 6000, warmup = 1000
)


precis(ment_cv, prob=.97)
```