**Preregistration Title**

Cross-Country Correlations

**Description**

Reviewing the literature on cross-country correlations and how many analyses control for non-independence between countries.

**Summary**

We plan to replicate twelve previous cross-country correlations related to economic development and values:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Reference** | **Outcome variable** | **Predictor variable** | **Covariates?** | **Model** | **Number of countries in replication** |
| *Economic development* | | | | | |
| Beck, Demirgüç-Kunt, and Levine (2003) | Stock market development | Settler mortality | No | Linear regression | 70 |
| Beck, Demirgüç-Kunt, and Levine (2005) | Average GDP per capita 1990-2000 | Small and medium enterprise sector’s employment share | No | Linear regression | 45 |
| Bockstette, Chanda, and Putterman (2002) | Average GDP growth 1960 - 1995 | State antiquity | No | Linear regression | 103 |
| Easterly and Levine (2003) | Log GDP per capita 1995 | Institutional development index 1998 | No | Linear regression | 63 |
| Easterly (2007) | Gini coefficient | Log wheat sugar ratio | No | Linear regression | 98 |
| Skidmore and Toya (2002) | Per capita GDP growth 1960-1990 | Log number of natural disasters per one mil km sq | No | Linear regression | 88 |
| *Values* | | | | | |
| Adamczyk and Pitt (2009) | Disapproval of homosexuality | Survival vs. self-expression values | Yes – see Model 5 in paper | Multilevel linear regression | 33 |
| Alesina, Giuliano, and Nunn (2013) | Female labour force participation in 2000 | Traditional plough use | No | Linear regression | 75 |
| Fincher, Thornhill, Murray, and Schaller (2008) | Individualism (Hofstede) | Historical pathogen prevalence | No | Linear regression | 66 |
| Gelfand et al. (2011) | Tightness | Natural disaster vulnerability | Yes - log GNI 2000 | Linear regression | 28 |
| Inglehart and Baker (2000) | Traditional vs. secular-rational values | Proportion in industrial sector | No | Linear regression | 49 |
| Knack and Keefer (1997) | Confidence in institutions | Percent trusting | No | Linear regression | 28 |

We have already collected the data for these replications and have run initial Bayesian linear / multilevel regressions replicating the original effect sizes.

Once we have pre-registered, we plan to run these regressions again *simultaneously controlling for both geographic and linguistic distances between countries*. Geographic distance is the standardised geodesic distance between country population centroids. Linguistic distance is the standardised cultural distances between all languages spoken within those countries, weighted by speaker percentages (see [here](https://osf.io/gy8ns/) for further details).

We will fit these Bayesian models in R v4.0.2 (R Core Team, 2021) using the *brms* package (Bürkner, 2017) running Stan (Stan Development Team, 2016). To control for geographic and linguistic distances between countries, we will allow country-level random intercepts to covary according to geographic and linguistic proximity by using Gaussian Processes and/or covarying random effects as outlined in [this phylogenetic vignette](https://cran.r-project.org/web/packages/brms/vignettes/brms_phylogenetics.html). The exact method employed will depend on model convergence.

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