All data processing and analysis was performed in Python using libraries including NumPy, Pandas, and statsmodels. The code was organized into six Jupyter notebooks, involving data transformation at the individual level, building indices of political orientation, data analysis at the individual level (calculating correlations among the indices), data transformation at the country level, data analysis at the country level and data visualization. The code within each Jupyter notebook was organized using the principles of object-oriented programming. In each notebook, there is a section dedicated to the definition of the class, a section for the creation of the object by instantiating the class, a section for calling each method defined for the class and a section for inspecting the results of applying each method to the data. All files with code for the transformation and analysis of data for the present project are publicly available on GitHub, in the repository “political spectrum\_comparative\_perspective” for the user “hi99-john” (https://github.com/hi99-john/political\_spectrum\_comparative\_perspective).

**3.1. Individual – level data analysis**

Correlations were calculated for each pair of political orientation indices. There were seven indices of political orientation in total, measuring attitudes toward individual freedom, socialism, ethnic minorities, gender equality, family values, nationalism as well as the level of personal religiosity. Correlations were calculated within each country with available data for the two indices necessary for calculating a correlation.

Since the data analysis at the individual level involved calculating over 2000 correlation coefficients, only a small fraction of the correlations can be verbally described in the results section. The 21 correlation coefficients among the 7 indices, averaged across all countries with available data was well as the correlation matrices for the five countries with the largest population in the world (China, India, the United States, Indonesia and Pakistan) were described in the results section.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Indices | freedom | socialism | family | ethnicity | gender | nationalism | religiosity |
| freedom |  | 108 | 106 | 105 | 108 | 107 | 108 |
| socialism |  |  | 113 | 113 | 110 | 113 | 113 |
| family |  |  |  | 113 | 109 | 112 | 113 |
| ethnicity |  |  |  |  | 109 | 111 | 111 |
| gender |  |  |  |  |  | 109 | 109 |
| nationalism |  |  |  |  |  |  | 112 |
| religiosity |  |  |  |  |  |  |  |

Table 1. Number of countries with available data for each correlation

**3.2. Country-level data analysis**

Data analysis at the country level consisted in regression models predicting the correlation coefficients of each country for the 21 correlations calculated among the 7 indices. Four predictors were used in each of the multiple linear regression models. The first predictor is the variable measuring whether a country had an authoritarian socialist regime in the past. The second predictor contains information about each country whether it has a Western cultural heritage or not. The third predictor is the Human Development Index. The fourth and last predictor is the Liberal Democracy Index calculated by the V-Dem Institute.

The intercept, the regression coefficients for the four predictors, the R2 score and the R2 score adjusted for the number of predictors were reported in the results section for each of the 21 regression models. The regression models are displayed according to the R2 score, in decreasing order. Since verbally describing all 21 regression models would have occupied too much space, only the five best performing models are described using words while the other models are shown only in the table.

Five scatterplots, showing how the correlation coefficients among the indices of political attitudes vary according to the human development index of each country are included in the results section. The five scatterplots are related to the five best – performing regression models. The human development index was chosen from the four predictors for inclusion in the scatterplots since it is the strongest predictor in each of the five regression models.