

Supplementary materials

1. Source data

The European Social Survey Rounds 1-8 dataset was created by merging single-round data tables downloaded with the R package `essurvey` (Cimentada, 2018) on May 4, 2019. The multi-round dataset includes 202 national samples from 36 countries surveyed in years 2002-2017 between one and eight times. In the analyses I used subsamples of respondents aged between 35 and 65, who were either employed or unemployed and looking for a job, and for whom information about education and occupation were available.

2. Status dimensions: Measurement of education and occupational status

I use two status dimensions: education and occupational status. Education is measured on the basis of responses to the question about the highest level of education the respondent completed, coded into categories of the International Standard Classification of Education (ISCED) as provided in the ESS dataset (variable `eisced`; in 38 samples where `eisced` was not available, `edulv1a` was used instead). For the purposes of the analysis, education is recoded into four categories: less than upper-tier secondary, upper-tier secondary and post-secondary non-tertiary, BA or equivalent, and MA and higher. Categories “Other” and “Not possible to harmonise into ES_ISCED” are treated as missing.

The measure of occupational status is constructed on the basis of respondents’ occupation codes in the International Standard Classification of Occupations (ISCO). Up to round 5, ESS used ISCO-88 codes (variable `iscoco`), and later ISCO-08 codes (`isco08`). To obtain occupational status scores, ISCO-88 and ISCO-08 codes are converted into the International Socioeconomic Index (ISEI), the ISEI-88 and the ISEI-08 variant, respectively. The conversion of ISCO-88 to ISEI-88 was performed using the `recode_from_ISCO88_to_ISEI` function from the `SocialPosition` package in R (Falcon, 2015). The conversion of ISCO-08 to ISEI-08 was based on the recoding instructions in Ganzeboom (2010).

In each country-round, the distribution of ISEI scores was recoded into quartiles, resulting in equally sized categories numbered from 1 (bottom quartile) to 4 (top quartile). The fifth category composed of individuals who were unemployed but looking for work was coded as 0, i.e., it was placed below all occupational quartiles. I decided to include the unemployed as one of the occupational status categories in order to improve the comparability of the occupational categories across countries with different levels of unemployment.

The meritocratic principle as defined by Krauze and Slomczynski (1985) relies on the strict ordering of categories on both status dimensions. This requirement guided the selection of categories of education and occupation. In both cases more granularity would result either in categories that cannot be unambiguously ordered or in very small cell counts for some countries. Choosing ISCO major groups (single digit codes) would lead to a partially ordered classification, while creating a smaller number of categories from the major groups would lead to categories that partly overlap in terms of occupational status. Ensuring that both status dimensions have strictly ordered categories is particularly important in cross-national comparisons, and using quantiles of ISEI scores satisfies this condition.

Other quantiles of ISEI scores could be used instead of quartiles. Pairwise correlation coefficients (Pearson's r) between country-year distances from meritocracy for ISEI quartiles, quintiles, sextiles, and septiles are in the range between 0.89 and 0.93.

The application of the meritocratic principle and the procedure of calculating the relative EMD between the meritocratic and observed distributions could be generalized to a continuous measurement of occupational status and education.

3. Distance between distributions

The Earth Mover's Distance (EMD) is a modification of the index of dissimilarity (used by Krauze and Slomczynski), where the proportion of the cases to be moved is weighted by the distance (or the number of cells), which makes it more suitable for ordinal variables, such as education and occupational status. In the current analysis, the correlation between the distance from meritocracy obtained using EMD and the index of dissimilarity equals 0.966.

4. Software

The analysis was performed using R (R Core Team, 2016) and the following packages: `essurvey` (Cimentada, 2018), `labelled` (Larmarange, 2019), `lme4` (Bates, Maechler, Bolker, & Walker, 2015), `ggplot2` (Wickham, 2016), `tidyverse` (Wickham, 2017), `SocialPosition` (Falcon, 2015), `sjPlot` (Lüdecke, 2018), `countrycode` (Arel-Bundock, Enevoldsen, & Yetman, 2018), `questionr` (Barnier, Briatte, & Larmarange, 2018), `emd` (Urbanek & Rubner, 2012).

5. References

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