# Source Data Reproduction Attempt to Evaluate a Claim from Horvat\_EurSocioRev\_2011\_lxXV

**Reproduction analyst(s):** Nate Breznau,

University of Bremen, [breznau.nate@gmail.com](mailto:breznau.nate@gmail.com)

**SCORE RR ID:** y791

**OSF Project:** <https://osf.io/q5szk>

## Instructions

For each claim that you are evaluating in this source data reproduction attempt, please complete all sections below. Please feel free to remove these and the other instructions for the final report that you provide on OSF. Please also feel free to reformat any of the provided tables/text to improve readability of your final document.

The first section of this document is a “transparency trail” that summarizes your analysis attempts in aggregate. For example, you may be able to evaluate multiple claims using the same model, in which case it is reasonable to provide a transparency trail for that analysis and indicate which claims it corresponds to. The final results of your analysis are reported in its corresponding “claim evaluation” section which follows the transparency trail.

Before running your analyses, please remove everything from the environment and restart your session to ensure no artifacts/packages/etc. from other analyses impact your reproduction attempt.

## Transparency Trail

**Data acquisition:** Initial contact with the first listed author of the original study (28/9/2020) redirected me to the second listed author (also 28/9/2020) who pointed out that the first wave of data should be available on ESRC’s data portal, but that the second wave may or may not be there. I confirmed that the first wave was there, but the second wave was not. There were some back and forth between the second author and further potential data holders, and eventually a third-party was found to be the holder of the entire datafile in Stata format. The data come from two independent studies that had similar questions and sampling strategies, therefore they are sufficiently similar to constitute a single ‘survey’ with two waves. Following the convention in the code book provided by the third-party contact these data will be labeled “EUREQUAL 1993-2007 Survey”, EUREQUAL for short.

The EUREQUAL survey aimed to attain for Central-/Eastern-Europe and Russia “national probability samples employing standardized rules for respondent selection procedures, with sampling frames designed to ensure their representativeness in each country. Extensive measures were taken to ensure reliability and cross-national comparability of questionnaires, including pilot-testing, translation and back-translation” (Horvat and Evans 2011:712). Although the replicator has no way to check these methods, the description sounds consistent with rigorous standards in survey research.

**Data analysis:** In this reproduction I acted as both data finder and data analyst. Thus, no special alterations were necessary between acquisition and analysis, other than using the full dataset rather than a 5% random sample. I used R Studio, my IDE of choice, to run R statistical software and to install the ‘MASS’ package (Venables and Ripley 2002) because it has a cumulative link model function which is normally analogous to an “ordered probit” – the modelling strategy reported by Horvat and Evans (2012:717).

Upon close inspection of the data and the codebook, it became clear that the data were not identical to those reportedly used in the original study. This conclusion is based on some problems in preparing the variables for analysis. In particular, data for Russia in 1996 does not appear to be recoded into ISCED, or if so, it contains many additional categories or the wrong numerical representations of the ISCED scale. I checked the country-specific education variable (v198) in the data and the codebook, but the values simply do not match what values exist in the data and what are reported in the codebook for Russia. I checked further Bulgaria and Belarus and they contain some values that are not reported in the codebook, so hand-coding of Russia (or any other country) into ISCED on my own was not possible.

It also became apparent that the data are different because of minor variation in case numbers and descriptive statistics. I attempted to reproduce Tables 1-3 from the original manuscript before trying to reproduce the analyses. Whether the data are in fact different or the authors somehow manipulated the data in a way other than I leading to variation in descriptive outcomes, I cannot conclude. The statistical differences are presented in my own Tables 1-3 in the Appendix.

**Instructions:** Please describe the steps you took to complete each attempt to reproduce the original analysis, including any deviations from the provided materials that were required to conduct the analysis. All changes to the code should be documented, including having to load packages that weren’t originally explicitly loaded in the code. Installing packages can be done outside of the code and does not count as a deviation per se, but should still be disclosed as a necessary step.

Each analysis should be documented in more detail in an accompanying script. Depending on the specific analyses of your project, it may make more sense to either combine the analyses from different claims into the same script or to separate them into separate scripts. In either case, please make clear which claim(s) the script corresponds to in the description of the script below and in its comments.

Please note that you should preserve all of the code and its accompanying documentation (e.g., an output and/or log file) for each analysis attempt, regardless of whether it produced sensible output. We *very strongly* encourage using a version control system (VCS), such as the one [built-in on OSF](https://help.osf.io/hc/en-us/articles/360019738694-file-revisions-and-version-control), to manage your iterations on this analysis. An equally satisfactory option is to use another VCS like GitHub and connect it to your OSF project as an [add-on](https://help.osf.io/hc/en-us/articles/360055351493-Add-ons). However you choose to manage versions of your materials, please indicate which version corresponds to which analysis attempt below, e.g., by referencing its version number on OSF or its filename if you are changing it between attempts.

Link to analysis script(s): [insert link(s) directly to your script(s) on OSF]

### Analysis attempt 1

Table 4. Reproduction of Horvat and Evans (2011:Table 5) cumulative link models (ordered probit) of subjective household standard of living over the past five years

|  |  |  |  |
| --- | --- | --- | --- |
| Variable / Parameter | Model 1 | Model 2 | Model 3 |
| Age 30-44 | 0.66 \*\*\* | 0.63 \*\*\* | 0.63 \*\*\* |
| Age 44-59 | 0.44 \*\*\* | 0.44 \*\*\* | 0.44 \*\*\* |
| Age >60 | 0.38 \*\*\* | 0.44 \*\*\* | 0.47 \*\*\* |
| Year 2007 | 2.11 \*\*\* | 2.08 \*\*\* | 2.12 \*\*\* |
| Age 30-44\*year'07 | 1.00 | 1.02 | 0.98 |
| Age 44-59\*year'07 | 0.90 | 0.90 | 0.90 |
| Age >60\*year'07 | 0.68 \*\*\* | 0.67 \*\*\* | 0.68 \*\*\* |
| Female |  | 0.86 \*\*\* | 0.90 \*\*\* |
| Educ mid |  | 1.08 \*\* | 1.02 |
| Educ high |  | 1.23 \*\*\* | 1.18 \*\*\* |
| EGP: routine non-man |  | 0.92 \* | 0.94 |
| EGP: Self |  | 1.24 \*\*\* | 1.29 \*\*\* |
| EGP: Skilled |  | 0.85 \*\*\* | 0.87 \*\*\* |
| EGP: Unskilled |  | 0.84 \*\*\* | 0.88 \*\*\* |
| EGP: Farmers |  | 0.84 \*\*\* | 0.87 \*\*\* |
| EGP: Never had a job |  | 0.72 \*\*\* | 0.83 \*\*\* |
| Income mid |  | 1.15 \*\*\* | 1.11 \*\*\* |
| Income high |  | 1.51 \*\*\* | 1.43 \*\*\* |
| Income missing |  | 1.24 \* | 1.20 |
| Pensions and benefits |  |  | 0.91 \*\* |
| Unemployed |  |  | 0.82 \*\*\* |
| Car |  |  | 1.31 \*\*\* |
| Country-specific intercepts | Yes | Yes | Yes |
| k1 | 0.08 \*\*\* | 0.09 \*\*\* | 0.11 \*\*\* |
| k2 | 0.20 \*\*\* | 0.21 \*\*\* | 0.28 \*\*\* |
| k3 | 1.80 \*\*\* | 1.98 \*\*\* | 2.70 \*\*\* |
| k4 | 24.01 \*\*\* | 27.06 \*\*\* | 38.22 \*\*\* |
| Observations | 35,648 | 35,648 | 35,648 |
| R2 Nagelkerke | 0.068 | 0.086 | 0.120 |
| log-Likelihood | -45,584.674 | -45,258.68 | -44,644.165 |
| *\* p<0.05   \*\* p<0.01   \*\*\* p<0.001* | | | | |

* [Describe the analysis at a high level, including which materials were consulted to design the analysis and how you acquired them]
* [Describe any intentional deviations from provided materials, and indicate the reasons for these deviations]
* [If applicable, explain why this is the final analysis performed, and complete the relevant claim evaluation(s) below]

Completed claim(s): [If any claims produced output at this point that you consider the canonical evidence for the reproduction of that claim, please indicate them here by copy/pasting claim ID(s) from above, or write “single-trace” if you are just working with one claim.]

### Analysis attempt 2-N

**Instructions:** If your reproduction required more than one attempt at the analysis, describe each attempt using this template. Please delete this section if you complete the analysis on the first attempt.

* [Describe how the preceding failure to reproduce to finding influenced the current analysis]
* [Describe the analysis at a high level, including which materials were consulted to design the analysis and how you acquired them]
* [Describe any intentional deviations from provided materials, and indicate the reasons for these deviations]
* [If applicable, explain why this is the final analysis performed, and complete the relevant claim evaluation(s) below]

Completed claim(s): [If any claims produced output at this point that you consider the canonical evidence for the reproduction of that claim, please indicate them here by copy/pasting claim ID(s) from above, or write “single-trace” if you are just working with one claim.]

## Claim evaluation

There are specific requirements for reporting the results of inferential tests:

* Any p-value should be reported as an exact value, not a threshold, e.g.“p = .047” rather than “p < .05”. Please also indicate whether it is from a one- or two-tailed test.
* Report the full text of your results with as much precision as possible. For example, a satisfactory report for the focal coefficient might be “unstandardized OLS coefficient for *income* term = 0.342367” vs an unsatisfactory report of “beta = 0.34”.
* Scientific notation is acceptable for especially small or large values.

These standards apply for all inferential tests reported in the primary criteria, as well as any reported to evaluate secondary criteria.

If a given primary criterion was not part of the preregistration because that information was not available in the original paper, but it is available from your analysis, you may report it here or you may indicate “NA” in that field and/or write a short note about why it is not reported.

### Single-trace claim

**Coded claim 4 text (original paper):** “The more polarized views, with which the elderly and the young have come to describe their prospective economic situation, cannot be explained away by changes in socio-demographic characteristics and resources. The introduction of socio-demographic controls to Model 2 and resources to Model 3 has no significant effect on the magnitude of the interaction term (from Model 3 in Table 5, ‘>60 x year’07’ term: estimate = -0.22; SE = 0.04; P < 0.001).”

**Reproduction data source(s):**

<https://osf.io/xjz7p/>

**Description of reproduction data:**

Mass\_Public\_Surveys\_1993-2007

**Primary reproduction criteria**

| Criterion | Original value | Precise reproduction | Approximate reproduction | Non-reproduction | Reproduction result |
| --- | --- | --- | --- | --- | --- |
| Sample size | 32,417 | 32,417 | 27,554 < x < 37,280 | x < 27,554 or x > 37,280 |  |
| Focal coefficient | probit regression coefficient = -0.22 | probit regression coefficient = -0.22 | -0.253 < x < -0.187 | x < -0.253 or x > -0.187 |  |
| Focal test statistic | NA | NA | NA | NA |  |
| Focal effect size | NA | NA | NA | NA |  |
| Focal p-value | p < 0.001 | p < 0.001 | p < 0.051 | p > 0.051 |  |

**Analyst success criteria:** NA

**Reproduction outcome:** Based on these criteria, the claim [did/did not] reproduce.

**Discussion:** [optional]

## General discussion (optional)

**Instructions:** If you would like to make any broad comments about this reproduction attempt, please do so here. Otherwise you may delete this page.

## Description of materials provided

**Instructions:** Please detail the materials that will be available on OSF or another repository from this project. This section should describe both what is available and whether it can be shared publicly or not. If all files can be shared publicly, it is alright to include a general sharing statement to the effect of “All materials on this OSF project may be shared publicly.” Otherwise, please indicate sharing permissions for each file.

For any materials that will not be shared on OSF or another repository by you, and are instead available through other means, please include a description of how someone else might access those materials.

We recommend including an entry for each file that indicates what that file is and its intended use. For example:

* data\_cleaning.R - the first step in the analysis pipeline which reads the raw data as provided by the original author and transforms it for use by analysis.R to conduct the focal test.

If you have many files which are similar, e.g., datasets from the same source, it is reasonable to describe them generally instead of individually, including any guidance on naming conventions and a tally of such files so others can verify they have all expected files. For example:

* ANES\_year.dta - There are 4 STATA .dta files used for this reproduction, distinguished by *year*, e.g., the dataset representing ANES responses from 2012 is labeled ANES\_2012.dta.

The minimum requirements for materials include:

1. **Analysis pipeline:** This may take the form of a script (or scripts) that process and then analyze your data, and/or *detailed* instructions for how these steps are accomplished if you do them manually (e.g., in Excel or via the GUI of your chosen statistical software).
2. **Full results/output:** Please provide the full output from your analysis, preferably with comments that identify which claim is being evaluated by each test. Depending on your chosen software, this may be one of a variety of file types. You may provide the default, but please also provide a version that is non-proprietary so that it may be viewed by someone who does not have your given software. Txt, PDF, markdown, and HTML are some common options that are not reliant on proprietary statistical software.
3. **Data:** All versions of your data should be provided. For all projects, the “raw”, i.e., earliest tabular version of your data should be available, and if other versions are generated during your analysis pipeline they should also be shared. It may not always be possible to share data on OSF directly if there are any ethical or legal constraints on sharing, e.g., if it is existing data that are proprietary or include sensitive participant information. In those cases, please provide instructions for how another person might access the data.

Although not required, we recommend that you include a data dictionary. This is also sometimes called a codebook in some fields. This file (or files) should describe every variable in your dataset. [This guide](https://help.osf.io/hc/en-us/articles/360019739054-How-to-Make-a-Data-Dictionary) provides more information about how to make one. For projects which rely on existing data, it is possible that a codebook already exists for that data from the source. It is satisfactory to either provide that file again if its license/permissions allow redistribution, or to provide guidance on how to access it if that is not the case.

## References

**Instructions:** At minimum, include a full citation of the original study. If you are using existing data for your replication, also cite the source(s) of that data. Literature reviews are not required, but may be reflected here as well.