# Source Data Reproduction Attempt to Evaluate 5 Claims from Huijts\_EurSocioRev\_2013\_OY3B

**Reproduction analyst(s):** Karolina Urbanska

**SCORE RR ID:** 2gwz2

**OSF Project:** <https://osf.io/qnvt2>

## 

## Transparency Trail

Link to analysis script(s):

*SRD\_Huijts\_data\_preparation.R* – <https://osf.io/nxzcy/> - data preparation script

*SRD\_Huijts\_claim\_evaluation.R* – <https://osf.io/qa695/-> script used to evaluate claims

### Analysis attempt 1

* The data from ESS Round 3 is first downloaded. It requires three separate downloads as the integrated file does not contain Latvia or Romania data. These files are merged in R, excluding Cyprus and any individuals 40 and under as per authors’ notes. At this stage, the number of observations does not match the number reported in the original article. The reproduction dataset observes 630 more observations (27,812 versus 27,182). Given how similar these numbers are (the digits are in a different place), it is likely that this was a typo.
* Parental category variable is computed next. These contain three distinct categories:
  + lives with children and is a biological parent
  + children have left the parental home after reaching adulthood (empty nest),
  + never had children (childless)

To construct this category variable, first, the variables reporting members of the household (rshipa2-rshipa15) are inspected to see if any of the household members is reported as a daughter or son, coding this variable as indicating that they live with a child as 1, and those who do not live with a child as 0.

Next, the variable indicating whether the respondent lives with a child is used in conjunction with the variable indicating whether the respondent ever given birth to/fathered a child (*bthcld*) to create the three levels of the parental category. Childless respondents were the reference category.

* Next, the country-level childlessness was calculated by aggregating the percentage of people in the childless category of the parental status variable for each country separately. This variable was called *childless\_perc*. After this variable was created, anyone not fitting into one of the three parental levels were excluded from the further analysis, as were individuals who did not indicate that they were either male or female.
* Next, individual-level variables were prepared for the analysis. Respondents who had missing information on five or more wellbeing items were excluded, after which the 8 wellbeing items were recoded and reverse-coded where appropriate to compose an aggregate measure of wellbeing, calculated as an average of the 8 wellbeing items. Covariates (age, marital status, education, parental education, religious attendance, disapproval of childlessness, paid employment, born in the country of residence) were transformed according to the original authors’ descriptions in Table 1 of the article, and with factor variables relevelled where appropriate.
* Next, country-level variables regarding social norms were prepared. To this end, the original ESS data was loaded again as respondents of all ages were used to determine country-level social norms. First, childlessness disapproval level was determined by calculating the percentage of individuals in the country that strongly disapprove or disapprove of an individual’s choice not to have a child. Second, the level of social contacts was calculated at the country-level. Both of these variables were grand mean centered.
* Respondents with missing values on key analysis variables were dropped from the final sample. This reduced the dataset from 25,737 observations to **25,082 observations**. This is around a 100 more observations than reported in the original paper. This may be because the original authors did not specify which variables were used to apply listwise deletion on the variables with missing values. Upon inspecting the summary of the reconstructed dataframe, however, everything looked in order in terms of variable distributions and therefore, I decided to proceed with this dataframe to perform the main analyses.

## Claim evaluations

### The following analyses were conducted to evaluate the claims:

* To evaluate claim ywpnj6, 24 linear regression models corresponding to female samples in the 24 countries were run to predict the effect of parental status on wellbeing. Results were controlled for age, age squared, marital status, educational level, religious attendance, parents’ education, paid employment, and whether they were born in the country of residence. Coefficients for women living with children (compared to childless women) and women with an empty nest (compared to childless women) were inspected. Countries for which both coefficients were of a negative value were considered as a country where childless women reported better wellbeing. These countries were summed to evaluate the claim.
* To evaluate claims 21drv2, 8r3dlz, oko481 and n38dk7 a multilevel model predicting wellbeing was constructed, nesting individuals within countries. All models controlled for age, age squared, marital status, education, parents’ education, religious attendance, paid work, whether the individual was born in the country of residence, own disapproval of childlessness and own social contacts. The slopes for parental status were allowed to vary (one for living with children and one for empty nest).
  + To evaluate claim 21drv2, the model used the data from male respondents only. An interaction term of parental status and social norms related to childlessness disapproval was entered as the key predictor.
  + To evaluate claim 8r3dlz, the model used the data from female respondents only. An interaction term of parental status and social norms related to childlessness disapproval was entered as the key predictor.
  + To evaluate claims oko481 and n38dk7, the model used the data from female respondents only. An interaction term of parental status and social norms related to social contacts was entered as the key predictor.

### Claim ID: ywpnj6

**Coded claim 4 text (original paper):** “Figure 1 shows how the relationship between childlessness and psychological well-being varies across countries…The figures show that…for…women, there is considerable cross-national variation in the extent to which childlessness is associated with worse psychological well-being…Interestingly, Figure 1 reveals that the fact that no significant overall association between childlessness and psychological well-being was found for women might be caused by the association being negative in some countries, but positive in others. In half of the countries, childless women actually report better psychological well-being than women with children. [Figure 1, Women, for…women, there is considerable cross-national variation in the extent to which childlessness is associated with worse psychological well-being]”

**Reproduction data source(s):**

<https://www.europeansocialsurvey.org/data/download.html?r=3>

**Description of reproduction data:**

The original study uses European Social Survey (2006 wave, Edition 3.7) accessed on November 07, 2021 here: <https://www.europeansocialsurvey.org/data/download.html?r=3> The integrated file as well as the Latvia and Romania files were downloaded in the SPSS format. The datasets were merged in R to create the full raw dataset.

**Primary reproduction criteria**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Criterion | Original value | Precise reproduction | Approximate reproduction | Non-reproduction | **Reproduction result** |
| Sample size | 13,718 | 13,718 | Between 11,660 and 15,776 | Below 11,660 or above 15,776 | **14,481** |
| Focal coefficient | NA | NA | NA | NA | **NA** |
| Focal test statistic | NA | NA | NA | NA | **NA** |
| Focal effect size | NA | NA | NA | NA | **NA** |
| Focal p-value | NA | NA | NA | NA | **NA** |

**Secondary reproduction criteria**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Criterion | Original value | Precise reproduction | Approxmate reproduction | Non-reproduction | **Reproduction result** |
| [1] | in half of the countries, childless women…report better psychological wellbeing than women with children | in half of the countries, childless women…report better psychological wellbeing than women with children | in 10-14 countries, childless women report better psychological wellbeing than women with children | in 10 or less or 14 or more countries, childless women report better psychological wellbeing than women with children | **In 10 countries, childless women reported better psychological wellbeing than women with children** |

**Analyst success criteria:** All outcomes meet the Approximate Reproduction Criteria.

**Reproduction outcome:** Based on these criteria, the claim **did** reproduce.

**Discussion:** The preregistered criteria were not mutually exclusive as 10 countries were considered within the range of both approximate reproduction and non-reproduction criteria. However, in the spirit of considering approximate reproduction as within 15% of the original value, the approximate reproduction range is 10.2 to 13.8. Rounding this to the whole number, the approximate values should have been specified as 10-14, whereas the non-reproduction values as 9 or lower or 15 or higher.

### Claim ID: 21drv2

**Coded claim 4 text (original paper):** “The next step is to examine the role of social contacts and societal norms in causing this variation. The results of analyses including cross-level interactions between these country characteristics and people’s parental status are presented in Table 4…In Model 2a, we find that (for…men…) the difference in psychological well-being between people who live with children and childless people is larger as societal norms are more disapproving of childlessness. [Table 4, Model 2a, Men, Lives with children x Percent (strongly) disapproves: B = 0.002, SE = 0.001, P<0.05]”

**Reproduction data source(s):**

<https://www.europeansocialsurvey.org/data/download.html?r=3>

**Description of reproduction data:**

The original study uses European Social Survey (2006 wave, Edition 3.7) accessed on November 07, 2021 here: <https://www.europeansocialsurvey.org/data/download.html?r=3> The integrated file as well as the Latvia and Romania files were downloaded in the SPSS format. The datasets were merged in R to create the full raw dataset.

**Primary reproduction criteria**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Criterion | Original value | Precise reproduction | Approximate reproduction | Non-reproduction | **Reproduction result** |
| Sample size | 10,477 | 10,477 | Between 8,905 and 12,049 | Below 8,905 or above 12,049 | **10,707** |
| Focal coefficient | B = 0.002 | B = 0.002 | NA | 0.0015 > B > 0.0024 | **B = 0.04692872** |
| Focal test statistic | NA | NA | NA | NA | **NA** |
| Focal effect size | NA | NA | NA | NA | **NA** |
| Focal p-value | P < 0.05 | P < 0.05 | 0.05 < P < .10 | P >= .10 | **p = 0.020693** |

**Analyst success criteria:** The Focal variable coefficient meets the Approximate Reproduction Criteria.

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

**Discussion:** The focal coefficient, although statistically significant and in the expected direction, was considerably higher than the range reported in the approximate reproduction criteria. In this view, the reproduction was not successful. However, the original claim made by the author was supported by the data.

### Claim ID: 8r3dlz

**Coded claim 4 text (original paper):** “The next step is to examine the role of social contacts and societal norms in causing this variation. The results of analyses including cross-level interactions between these country characteristics and people’s parental status are presented in Table 4…In Model 2a, we find that (for…women) the difference in psychological well-being between people who live with children and childless people is larger as societal norms are more disapproving of childlessness. [Table 4, Model 2a, Women, Lives with children x Percent (strongly) disapproves: B = 0.003, SE = 0.001, P<0.01]”

**Reproduction data source(s):**

<https://www.europeansocialsurvey.org/data/download.html?r=3>

**Description of reproduction data:**

The original study uses European Social Survey (2006 wave, Edition 3.7) accessed on November 07, 2021 here: <https://www.europeansocialsurvey.org/data/download.html?r=3> The integrated file as well as the Latvia and Romania files were downloaded in the SPSS format. The datasets were merged in R to create the full raw dataset.

**Primary reproduction criteria**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Criterion | Original value | Precise reproduction | Approximate reproduction | Non-reproduction | **Reproduction result** |
| Sample size | 13,718 | 13,718 | Between 11,660 and 15,776 | Below 11,660 or above 15,776 | **13,713** |
| Focal coefficient | B = 0.003 | B = 0.003 | B = 0.0035 | 0.0025 > B > 0.0034 | **B = 0.076619618** |
| Focal test statistic | NA | NA | NA | NA | **NA** |
| Focal effect size | NA | NA | NA | NA | **NA** |
| Focal p-value | P < 0.01 | P < 0.01 | 0.01 < P < 0.06 | P >= 0.06 | **p = 0.00000596901055** |

**Analyst success criteria:** The Focal variable coefficient meets the Approximate Reproduction Criteria.

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

**Discussion:** The focal coefficient, although statistically significant and in the expected direction, was considerably higher than the range reported in the approximate reproduction criteria. In this view, the reproduction was not successful. However, the original claim made by the author was supported by the data.

### Claim ID: oko481

**Coded claim 4 text (original paper):** “The next step is to examine the role of social contacts and societal norms in causing this variation. The results of analyses including cross-level interactions between these country characteristics and people’s parental status are presented in Table 4…In Model 2b…For women…we do find significant interaction effects: as compared with both groups of people with children, the disadvantage of the childless with regard to their psychological well-being is weaker if the level of social contacts is higher. [Table 4, Model 2b, Women, Lives with children x Level of social contacts: B = -0.122, SE = 0.036, P<0.01]”

**Reproduction data source(s):**

<https://www.europeansocialsurvey.org/data/download.html?r=3>

**Description of reproduction data:**

The original study uses European Social Survey (2006 wave, Edition 3.7) accessed on November 07, 2021 here: <https://www.europeansocialsurvey.org/data/download.html?r=3> The integrated file as well as the Latvia and Romania files were downloaded in the SPSS format. The datasets were merged in R to create the full raw dataset.

**Primary reproduction criteria**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Criterion | Original value | Precise reproduction | Approximate reproduction | Non-reproduction | **Reproduction result** |
| Sample size | 13,718 | 13,718 | Between 11,660 and 15,776 | Below 11,660 or above 15,776 | **13,713** |
| Focal coefficient | B = -0.122 | B = -0.122 | -0.140 < B < -0.104 | -0.140 >= B >= -0.104 | **B = -** **0.057150244** |
| Focal test statistic | NA | NA | NA | NA | **NA** |
| Focal effect size | NA | NA | NA | NA | **NA** |
| Focal p-value | P < 0.01 | P < 0.01 | 0.01 < P < 0.06 | P >= 0.06 | **p = 0.00567** |

**Analyst success criteria:** The Focal variable coefficient meets the Approximate Reproduction Criteria.

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

**Discussion:** The focal coefficient, although statistically significant and in the expected direction, not in the range reported in the approximate reproduction criteria. In this view, the reproduction was not successful. However, the original claim made by the author was supported by the statistically significant p-value.

### Claim ID: n38dk7

**Coded claim 4 text (original paper):** “The next step is to examine the role of social contacts and societal norms in causing this variation. The results of analyses including cross-level interactions between these country characteristics and people’s parental status are presented in Table 4…In Model 2b…For women…we do find significant interaction effects: as compared with both groups of people with children, the disadvantage of the childless with regard to their psychological well-being is weaker if the level of social contacts is higher. [Table 4, Model 2b, Women, Empty nest x Level of social contacts: B = -0.079, SE = 0.029, P<0.01]”

**Reproduction data source(s):**

<https://www.europeansocialsurvey.org/data/download.html?r=3>

**Description of reproduction data:**

The original study uses European Social Survey (2006 wave, Edition 3.7) accessed on November 07, 2021 here: <https://www.europeansocialsurvey.org/data/download.html?r=3> The integrated file as well as the Latvia and Romania files were downloaded in the SPSS format. The datasets were merged in R to create the full raw dataset.

**Primary reproduction criteria**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Criterion | Original value | Precise reproduction | Approximate reproduction | Non-reproduction | **Reproduction result** |
| Sample size | 13,718 | 13,718 | Between 11,660 and 15,776 | Below 11,660 or above 15,776 | **13,713** |
| Focal coefficient | B = -0.079 | B = -0.079 | -0.091 < B < -0.067 | -0.091 >= B >= -0.067 | **B = -0.** **033733211** |
| Focal test statistic | NA | NA | NA | NA | **NA** |
| Focal effect size | NA | NA | NA | NA | **NA** |
| Focal p-value | P < 0.01 | P < 0.01 | 0.01 < P < 0.06 | P >= 0.06 | **p = 0.02781** |

**Analyst success criteria:** The Focal variable coefficient meets the Approximate Reproduction Criteria.

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

**Discussion:** The focal coefficient, although statistically significant and in the expected direction, was not within the range reported in the approximate reproduction criteria. In this view, the reproduction was not successful. However, the original claim made by the author was supported by the statistically significant p-value.

## General discussion (optional)

1/5 claims were successfully reproduced in this effort. The main issue with this reproduction was the lack of detailed information from the original author regarding the exclusions in the final analytic sample. While the final analytic sample was reproduced within the approximate range, it was not reproduced exactly which likely led to the differential size of the focal coefficients than those reported by the original author. Should the reproduction criteria were constrained to a significant p-value only, all five claims would have been reproduced.

## Description of materials provided

All files can be shared publicly.

1. **Analysis pipeline:**

*SRD\_Huijts\_data\_preparation.R* – <https://osf.io/nxzcy/> - data preparation script; uses *ESS3\_e03\_7.sav, ESS3LV.sav, and ESS3RO.sav* to produce the final dataset, *SRD Huijts data final.xls*

*SRD\_Huijts\_claim\_evaluation.R* – <https://osf.io/qa695/-> script used to evaluate claims

1. **Full results/output:**

*SRD\_Huijts\_results\_output.html* - <https://osf.io/v4zem/> - the result script for the claim evaluation R file

1. **Data:**

*ESS3e03\_7.sav* - <https://osf.io/8qypa/> - the integrated ESS Round 3 data

*ESS3LV.sav*  - <https://osf.io/x9hu2/> - Latvia ESS Round 3 data

*ESS3RO.sav* - <https://osf.io/pq85t/> - Romania ESS Round 3 data

*SRD Huijts data final.xls* - <https://osf.io/sygef/> - the reproduced dataset, obtained using the *SRD\_Huijts\_data\_preparation.R* script

1. **Data dictionary**

*data\_dictionary.xlsx* - <https://osf.io/mju5k/> - includes all original/raw and transformed variables used in this project

## References

Huijts, T., Kraaykamp, G., & Subramanian, S. V. (2013). Childlessness and psychological well-being in context: A multilevel study on 24 European countries. *European Sociological Review, 29*(1), 32-47.