Trend inequality of happiness in nations 1946-2010
How much happiness differs across citizens

Table 1
Change 1973-2010 in points of standard deviation[5]

Increase SD increased significantly, meaning more inequality		*Stable* SD did not change significantly		*Decline* SD decreased significantly, meaning less inequality	
West-Germany	+ 0.11	Portugal*	+ 0.10	Netherlands	− 0.11
		USA	+ 0.00	Belgium	− 0.11
		Japan	- 0.07	France	− 0.15
		Luxembourg	− 0.11	EU9	− 0.15
				UK	− 0.19
				Denmark	− 0.19
				Ireland	− 0.37
				Italy	− 0.41
				Greece*	− 0.48
				Spain*	− 0.49

Data: table 2, Trend lines on graphs. * Greece since 1981, Portugal and Spain since 1985, EU until 2009

Table 2
Trend expressed in average annual increase

Nation	Period[7]	Trend standard deviation of happiness[1, 2,3, ,4]	
		Average annual increase[5]	95% confidence interval[6]
Belgium	1973-2010	**−.003**	−.006 −.001
Denmark	1973-2010	**−.005**	−.008 −.003
EU9	1973-2009	**−.004**	−.005 −.003
France	1973-2010	**−.004**	−.006 −.002
Germany	1990-2010	**+.008**	+.003 +.013
- former East	1990-2009	**+.011**	+.006 +.016
- former West	1973-2009	**+.003**	+.000 +.005
Greece	1981-2010	**−.016**	−.020 −.011
Ireland	1973-2010	**−.010**	−.014 −.006
Italy	1973-2010	**−.011**	−.013 −.008
Japan	1958-2007	−,003	−.006 +.000
	1973-2007	-.002	−.007 +.004
Luxembourg	1973-2010	−.003	−.007 +.001
Netherlands	1973-2010	**−.003**	−.005 −.000
Portugal	1985-2010	+.004	−.001 +.008

Spain	1985-2010	**−.019**	−.025 −.012
UK	1973-2010	**−.005**	−.008 −.003
USA	1946-2008	**−.007**	−.010 −.004
	1973-2005	+.000	−.004 +.003

Bold: p<.05 (two-sided)

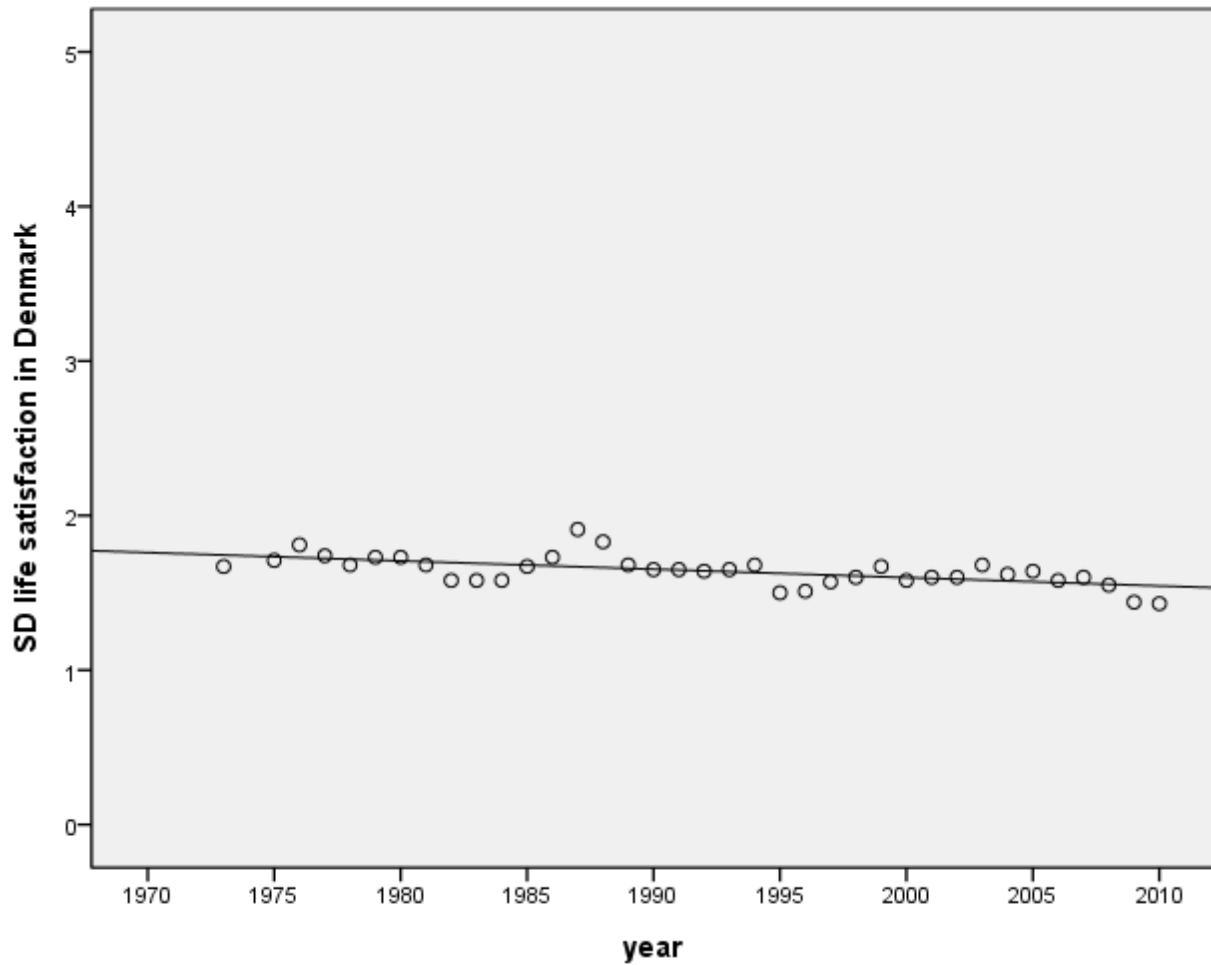# Graphs

Belgium
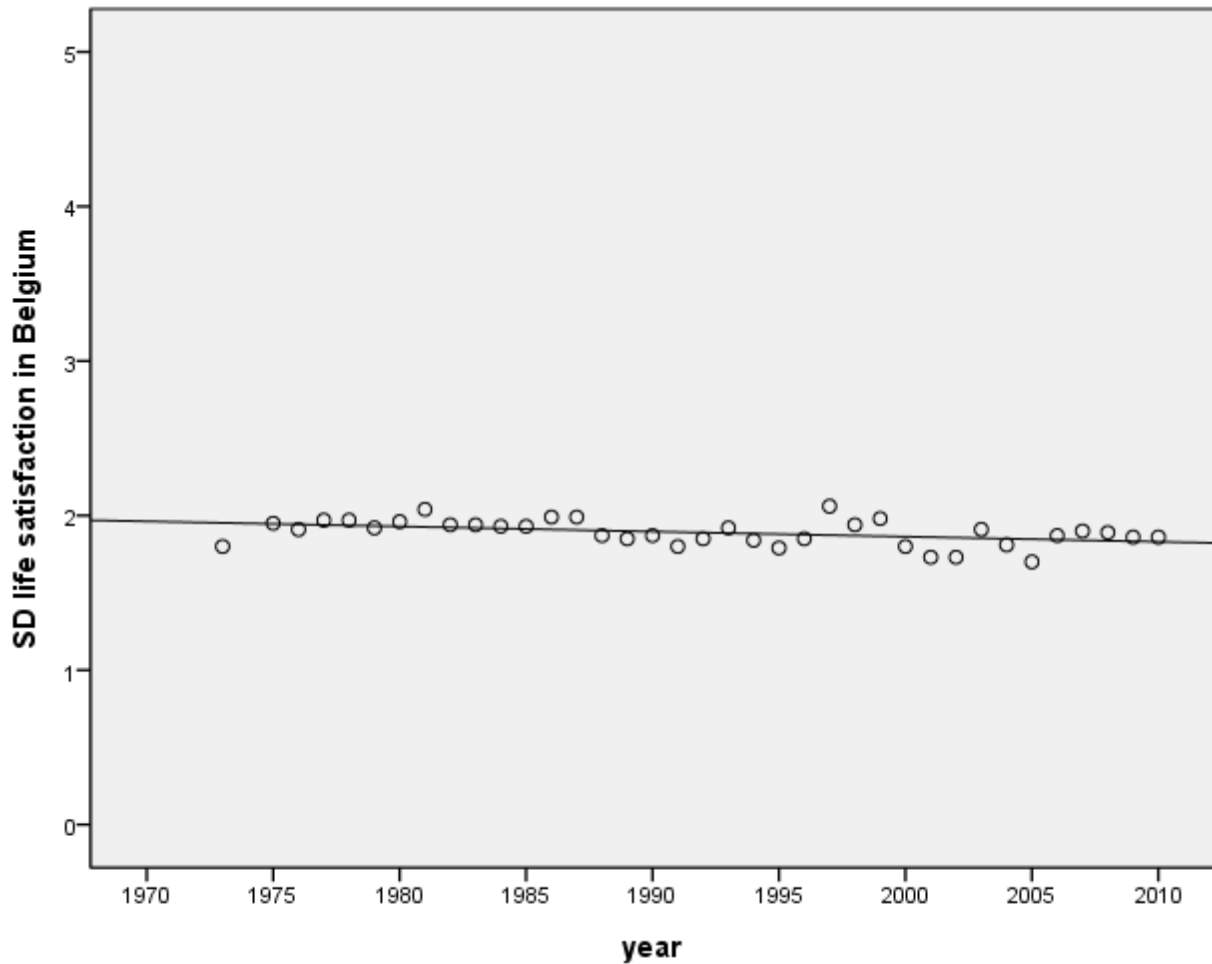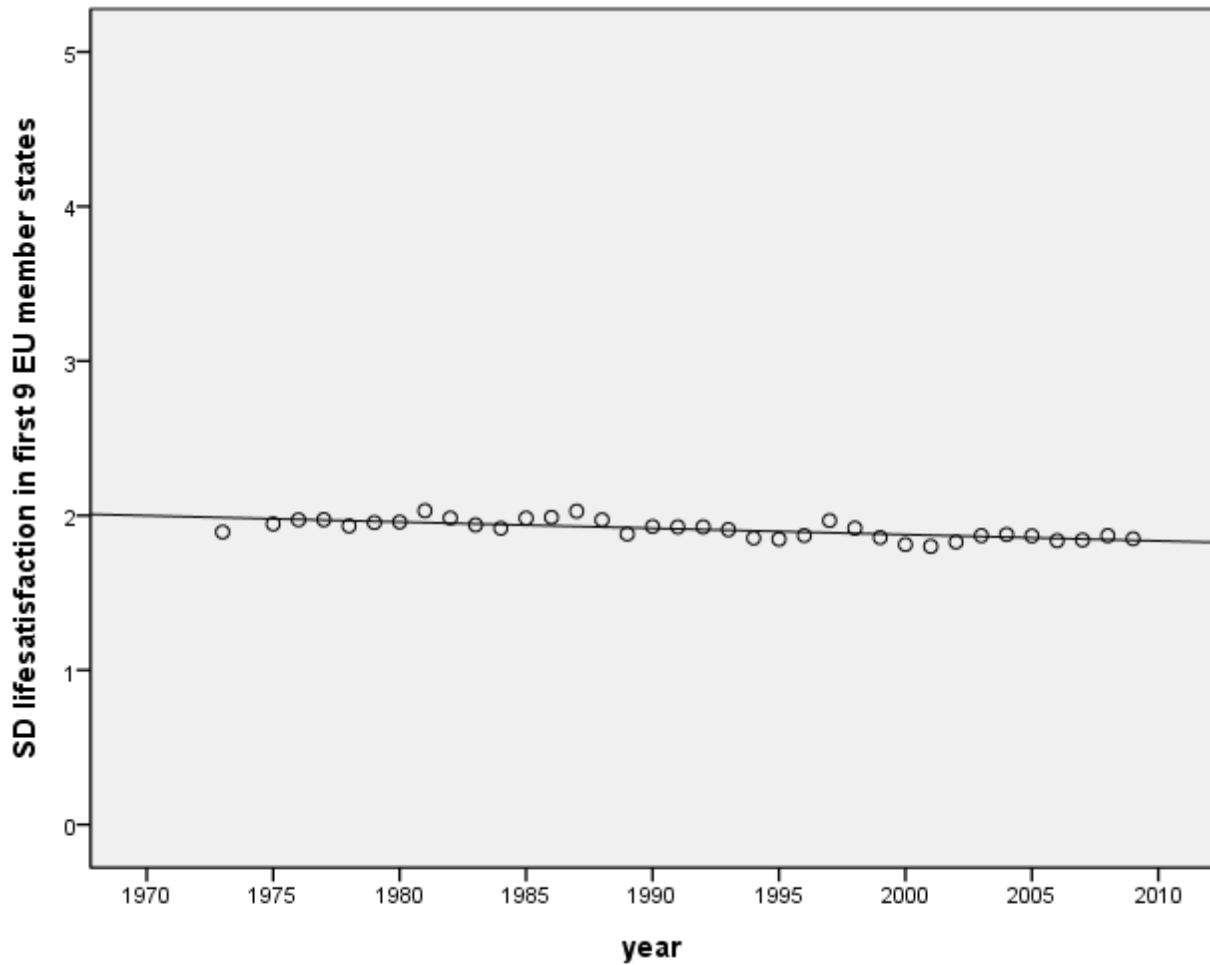

Data on happiness taken from Nation report Belgium
Based on responses to 4-step question on life satisfaction
Question code in Item Bank: O-SLL/u/sq/v/4/b
Variable code in data file 'Trends in Nations': eqls4_be

Denmark

Data on happiness taken from Nation report Denmark
Based on responses to 4-step question on life satisfaction
Question code in Item Bank: O-SLL/u/sq/v/4/b
Variable code in data file 'Trends in Nations': eqls4_dk

EU9

Weighted average of the first 9 member nations of the European Union, since 1973.
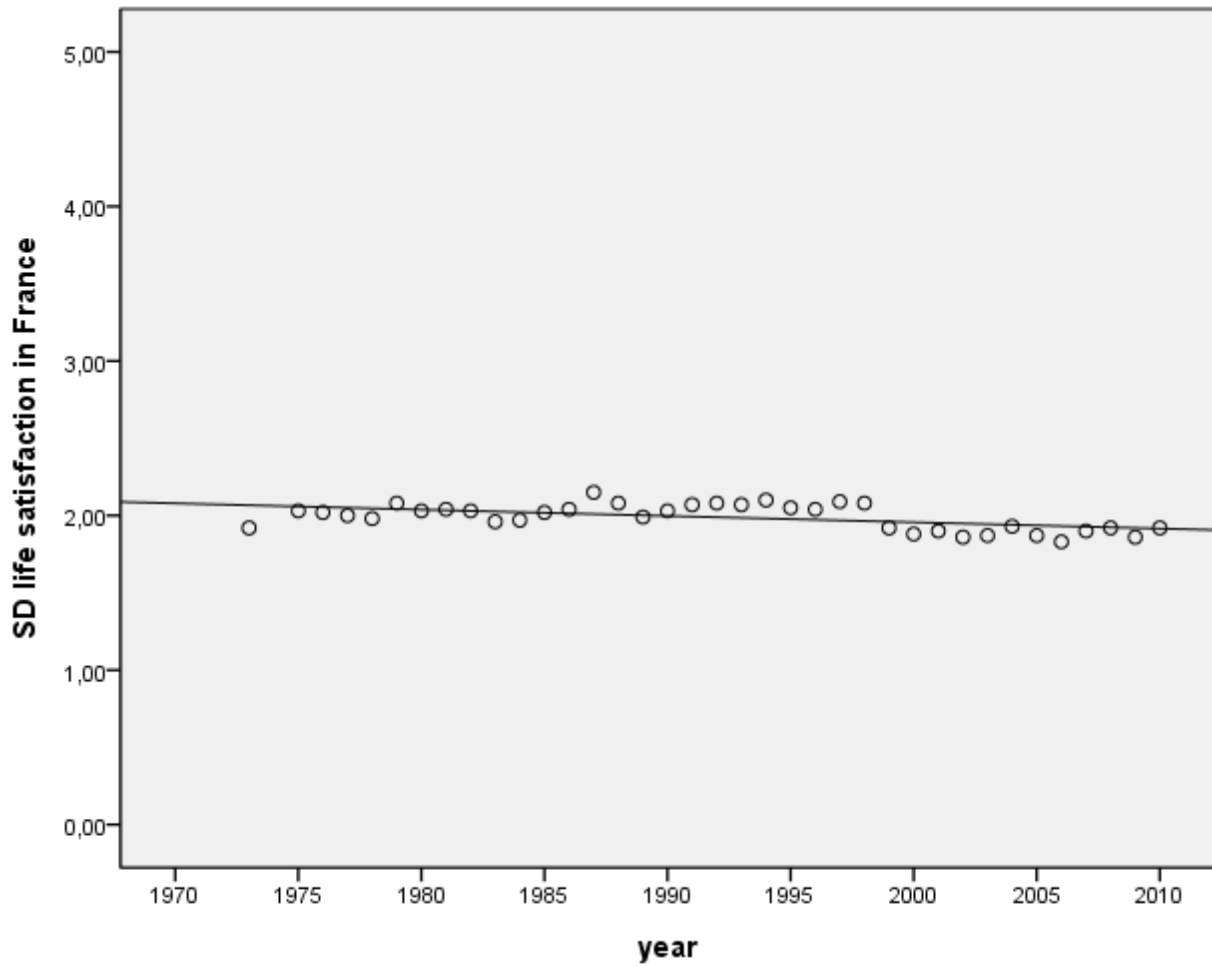The weights (derived from population ratio) are as follows:

Belgium	0.037
France	0.215
Germany West	0.234
Ireland	0.015
Italy	0.207
Luxembourg	0.002
Netherlands	0.058
Denmark	0.019
United Kingdom	0.212

Based on responses to 4-step question on life satisfaction
Question code in Item Bank: O-SLL/u/sq/v/4/b
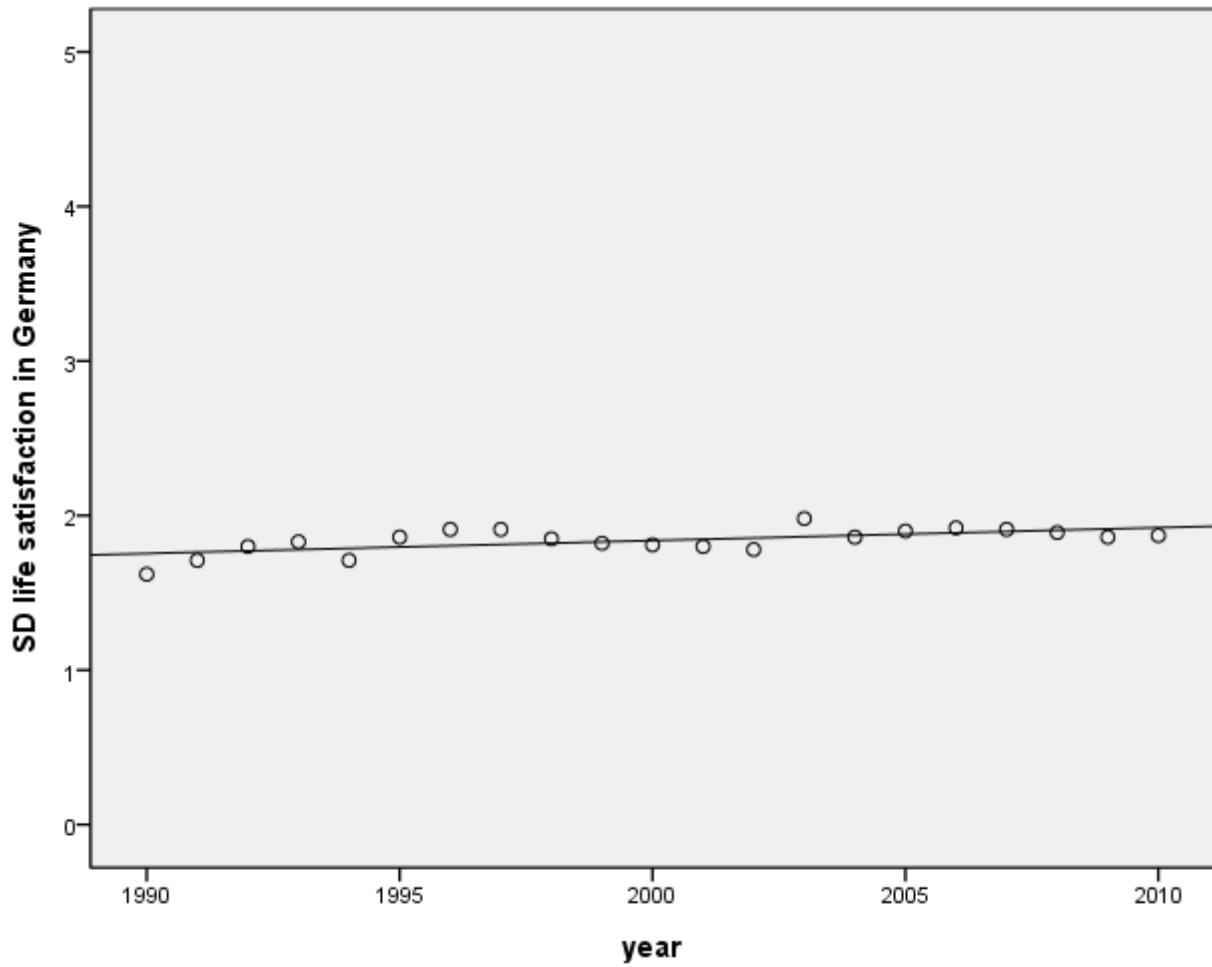Variable code in data file 'Trends in Nations': eqls4_eu9

France

Data on happiness taken from Nation report France
Based on responses to 4-step question on life satisfaction
Question code in Item Bank: O-SLL/u/sq/v/4/b
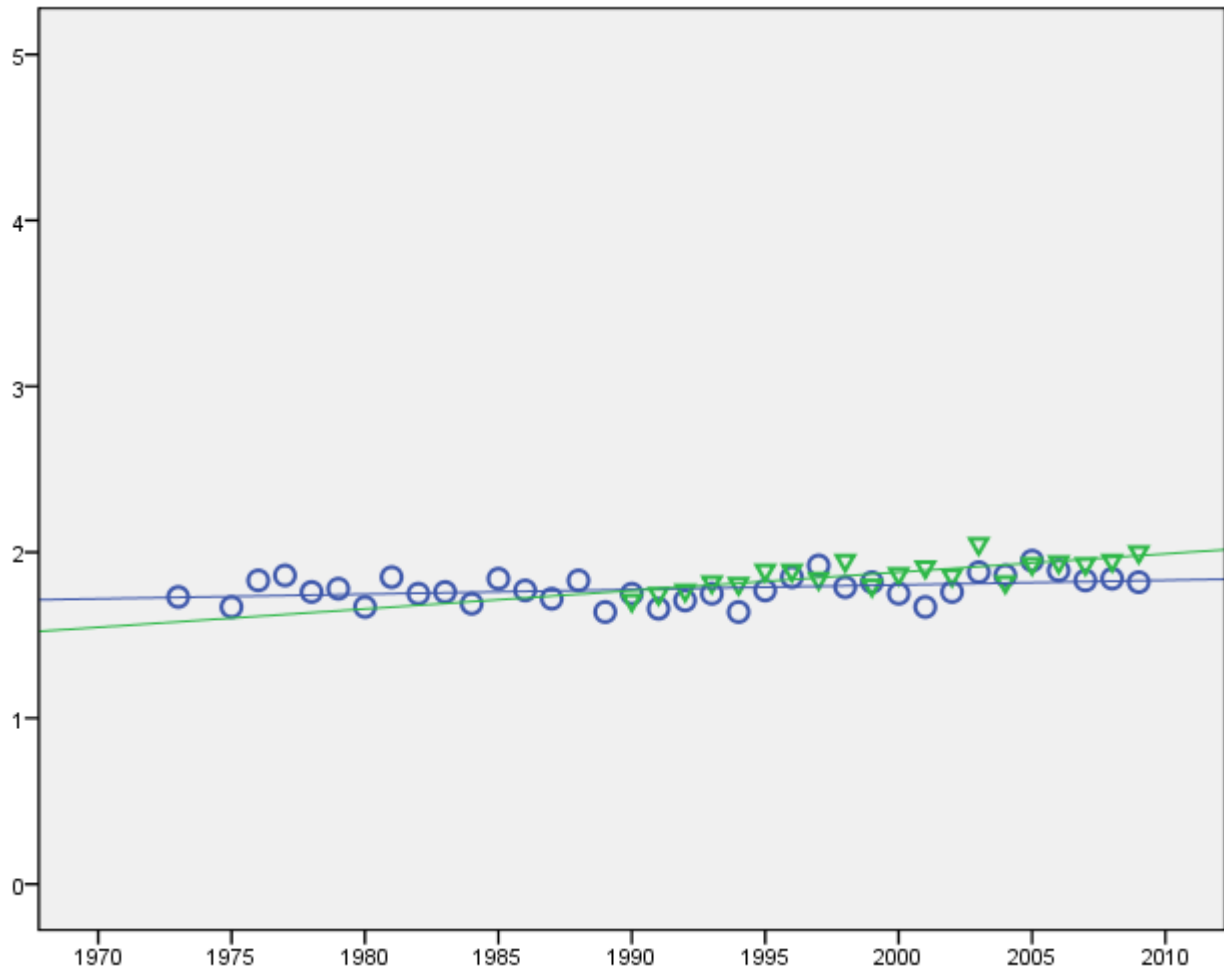Variable code in data file 'Trends in Nations': eqls4_fr

Germany (since re-union in 1990)

Data on happiness taken from Nation report Germany
Based on responses to 4-step question on life satisfaction
Question code in Item Bank: O-SLL/u/sq/v/4/b
Variable code in data file 'Trends in Nations': eqls4_de

Germany: Former East (triangles) and West (circles)

Based on responses to 4-step question on life satisfaction
Question code in Item Bank: O-SLL/u/sq/v/4/b
Variable code in data file 'Trends in Nations': eqls4_dew and eqls4_dee
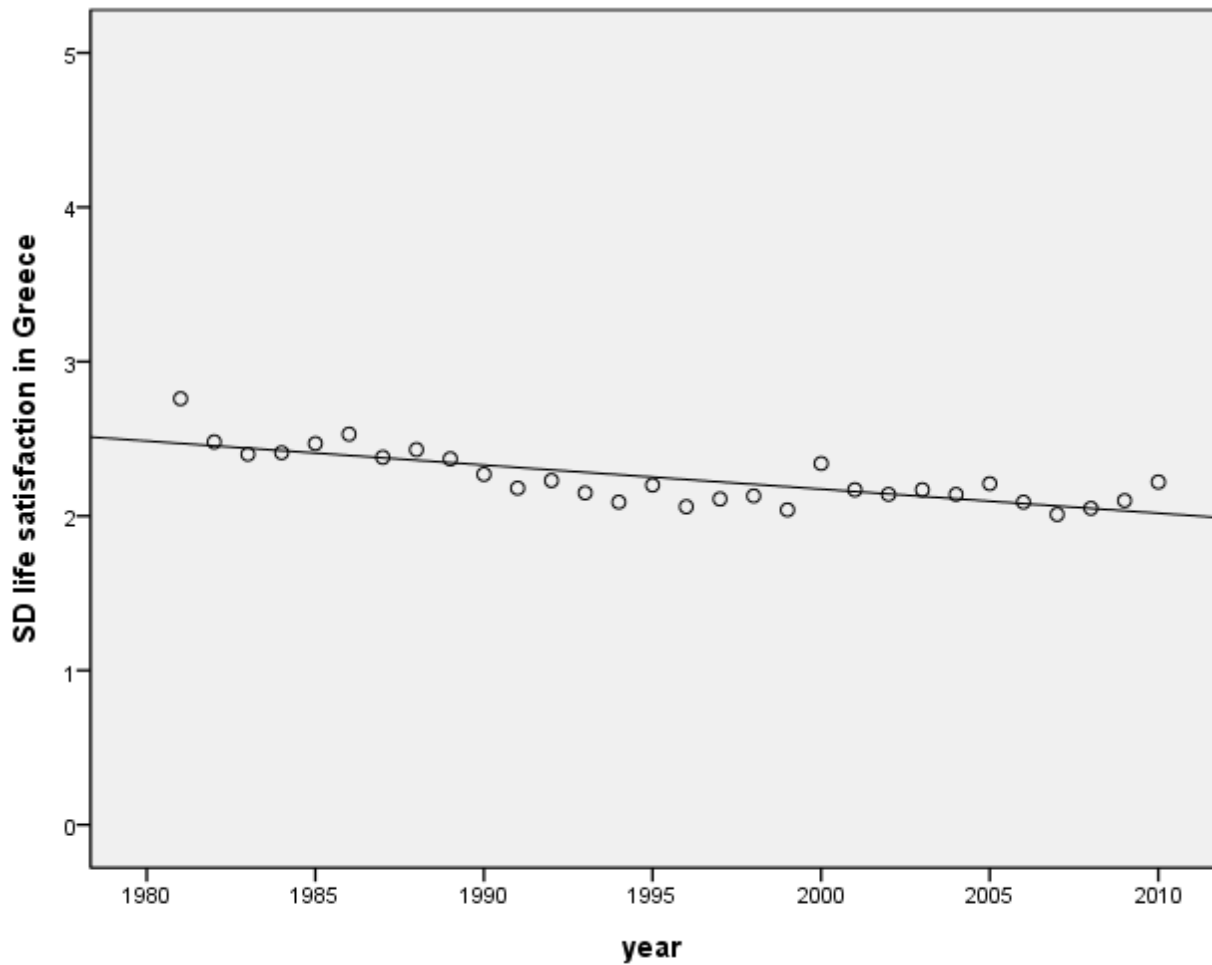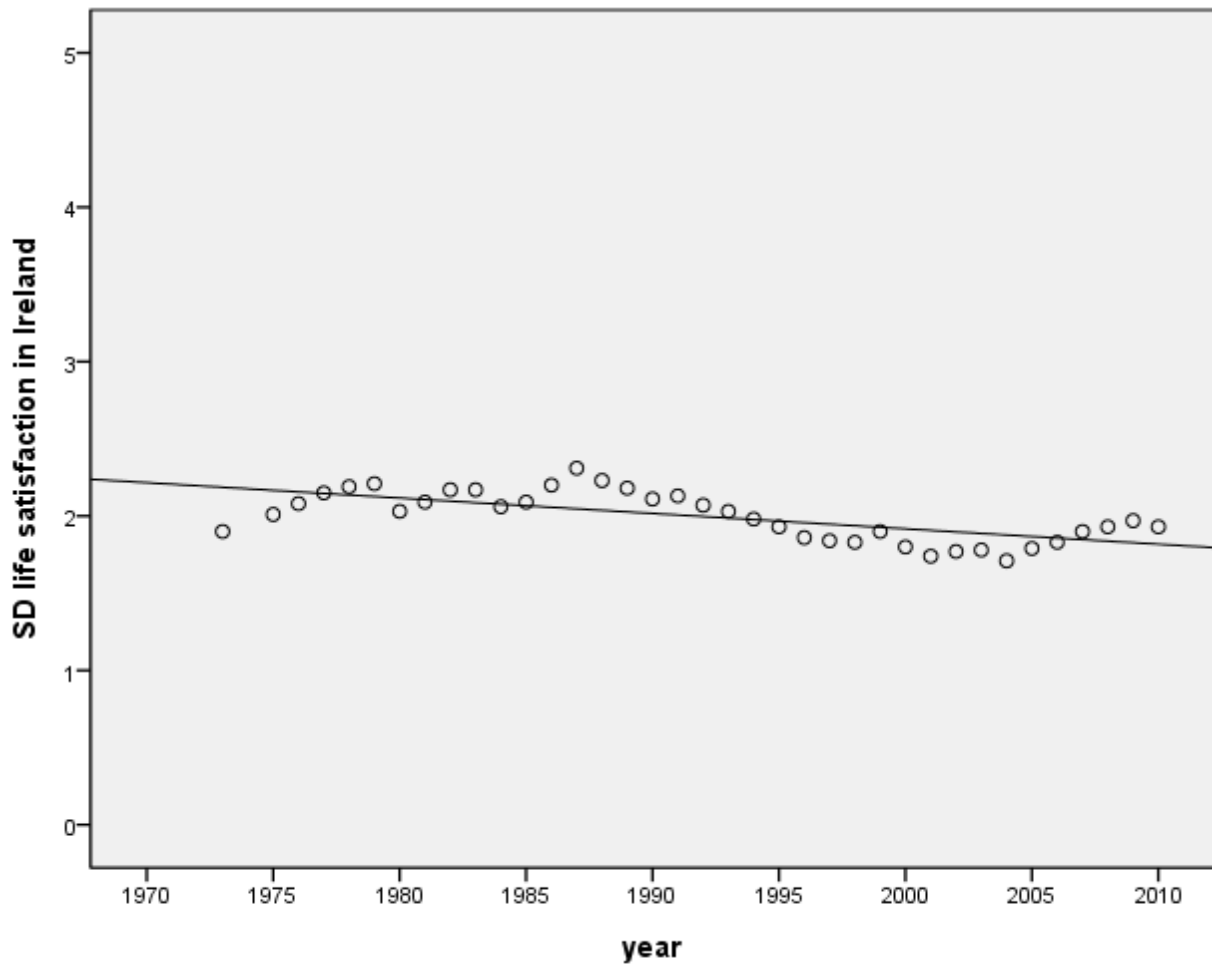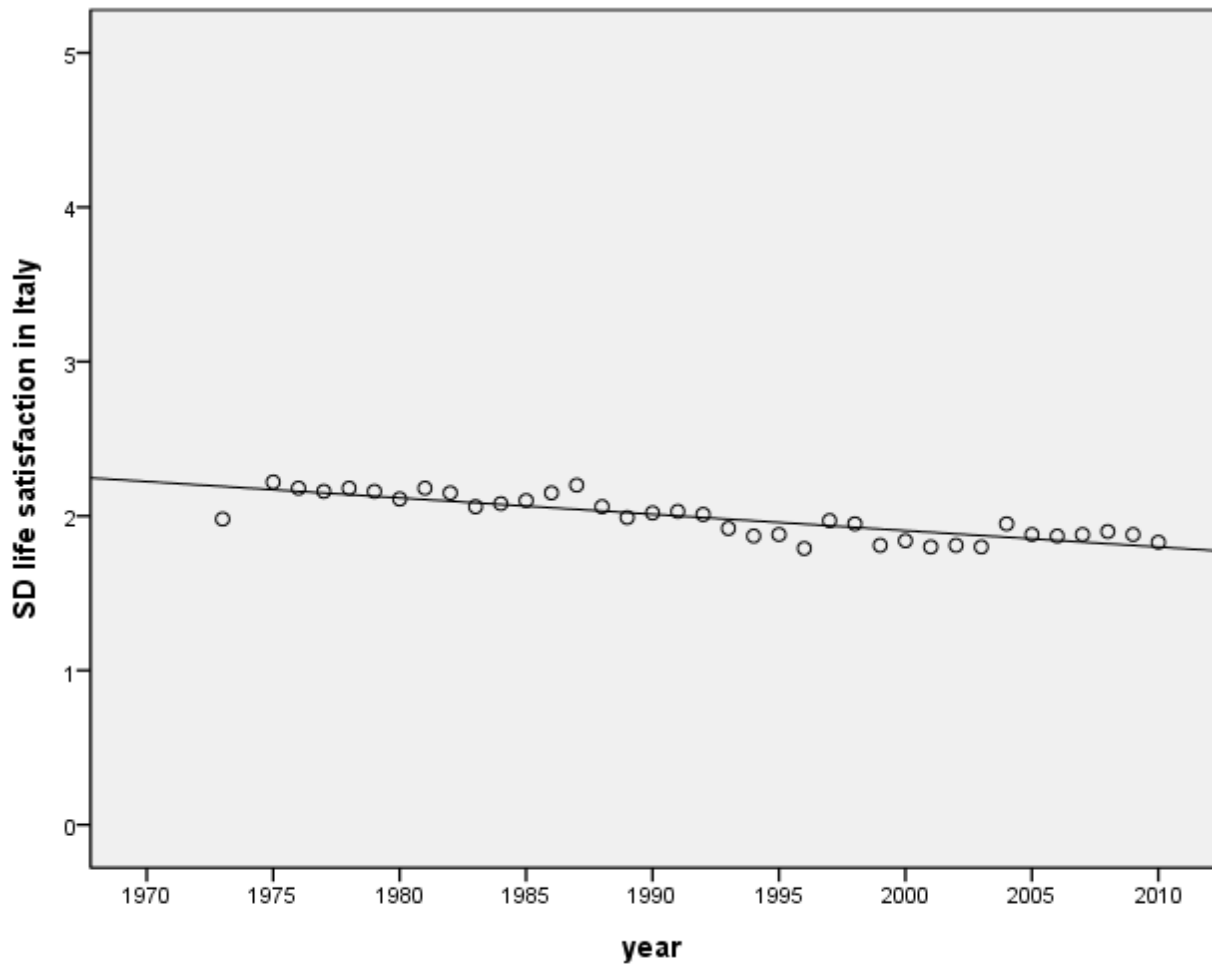
Greece

Data on happiness taken from Nation report Greece
Based on responses to 4-step question on life satisfaction
Question code in Item Bank: O-SLL/u/sq/v/4/b
Variable code in data file 'Trends in Nations': eqls4_gr

Ireland

Data on happiness taken from Nation report Ireland
Based on responses to 4-step question on life satisfaction
Question code in Item Bank: O-SLL/u/sq/v/4/b
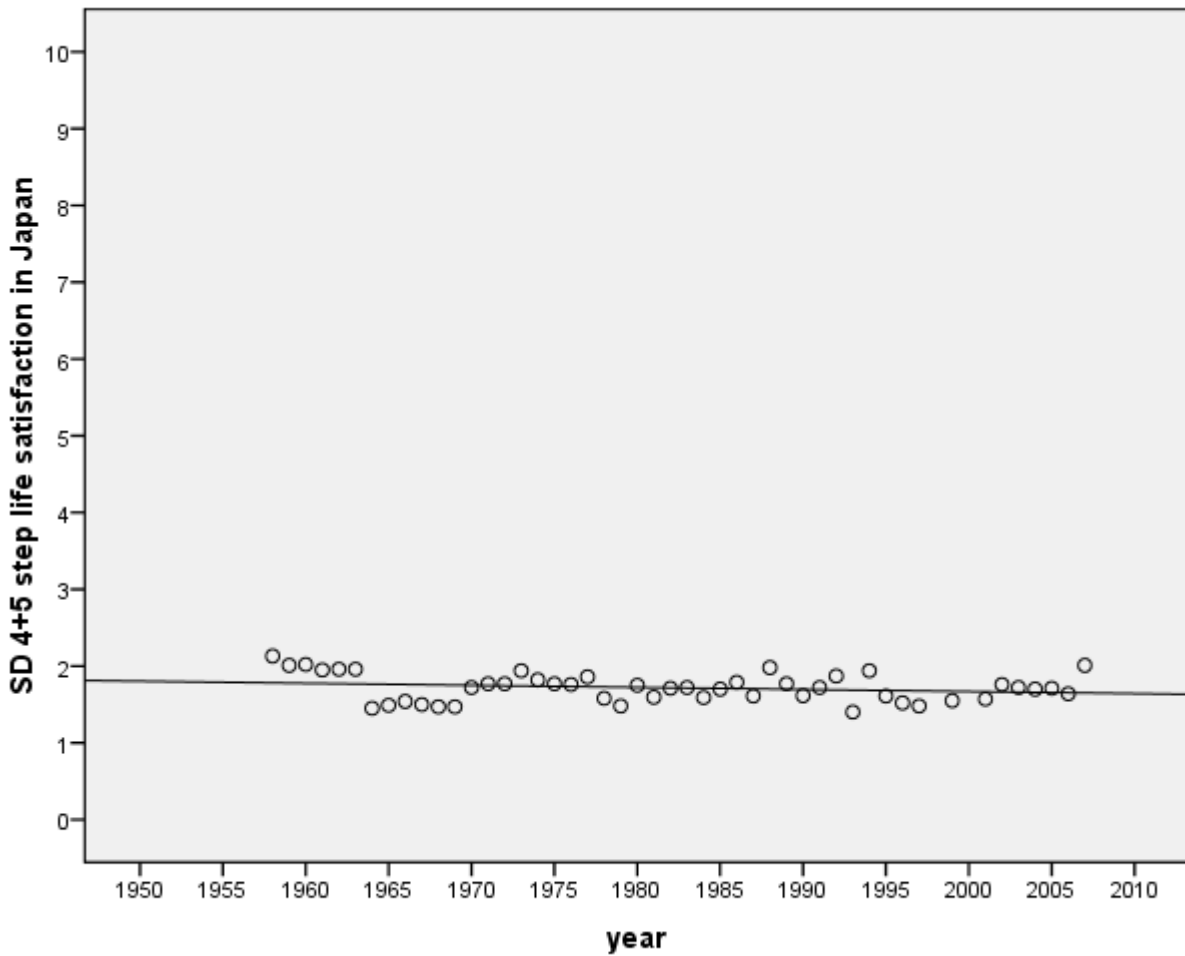Variable code in data file 'Trends in Nations': eqls4_ie

Italy

Data on happiness taken from Nation report Italy
Based on responses to 4-step question on life satisfaction
Question code in Item Bank: O-SLL/u/sq/v/4/b
Variable code in data file 'Trends in Nations': eqls4_it

Japan

Item	Code*	Era	B	CI 95
4-step life satisfaction type O-SLL/u/sq/v/4.. variants a, e, O-SLu/c/sq/v/4/f	eqls4a_jp	1958-1991	−.004	−.009 +.002
4-step life satisfaction type O-SLW/c/sq/v/4/e	eqls4b_jp	1992-2007	+.010	-.002 +.021
5-step life satisfaction type O-SLu/g/sq/v/5/e, O-SLW/c/sq/v/5 .. variants fc, k, l, r and O-SLW/u/sq/v/5/h	eqls5_jp	1978-2005	+.011	−.008 +.031
Average (in chart above)	eqls45_jp	1958-2007	−.003	−.006 +.001

* Variable code in data file 'Trends in Nations'

Luxembourg

Data on happiness taken from Nation report Luxembourg
Based on responses to 4-step question on life satisfaction
Question code in Item Bank: O-SLL/u/sq/v/4/b
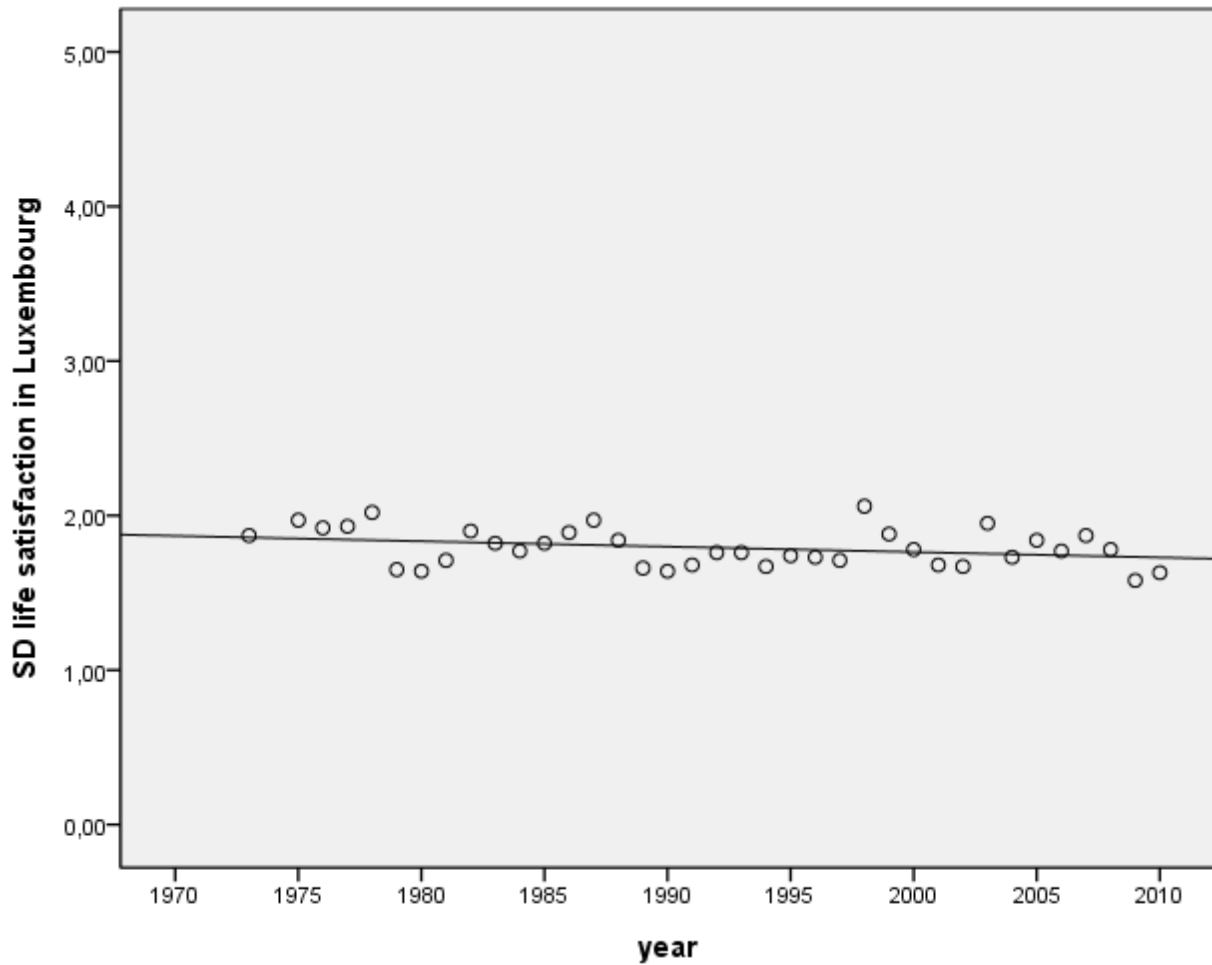Variable code in data file 'Trends in Nations': eqls4_lu

The Netherlands
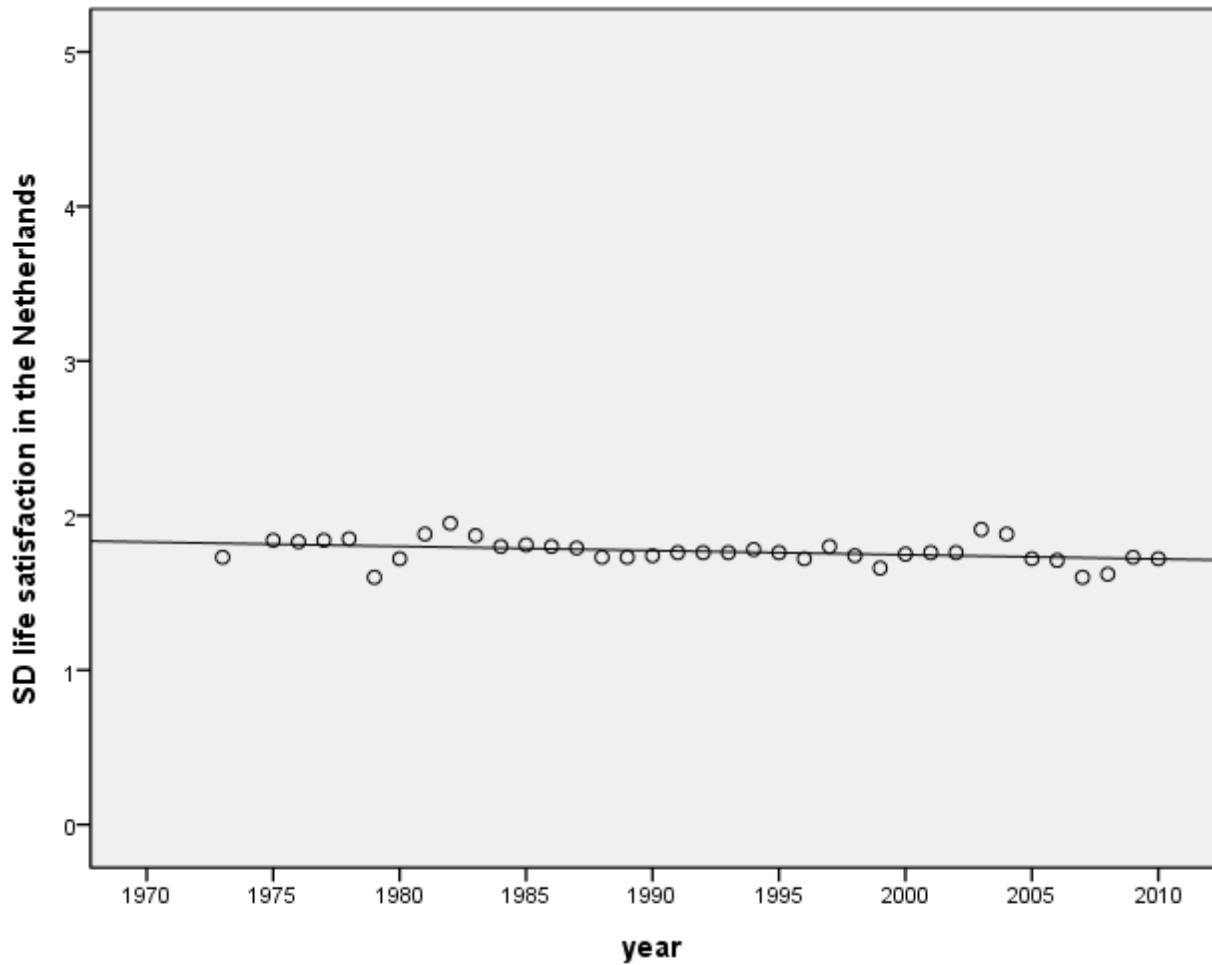
Data on happiness taken from Nation report Netherlands
Based on responses to 4-step question on life satisfaction
Question code in Item Bank: O-SLL/u/sq/v/4/b
Variable code in data file 'Trends in Nations': eqls4_nl

Portugal

Based on responses to 4-step question on life satisfaction
Question code in Item Bank: O-SLL/u/sq/v/4/b
Variable code in data file 'Trends in Nations': eqls4_pt

Spain

Data on happiness taken from Nation report Spain
Based on responses to 4-step question on life satisfaction
Question code in Item Bank: O-SLL/u/sq/v/4/b
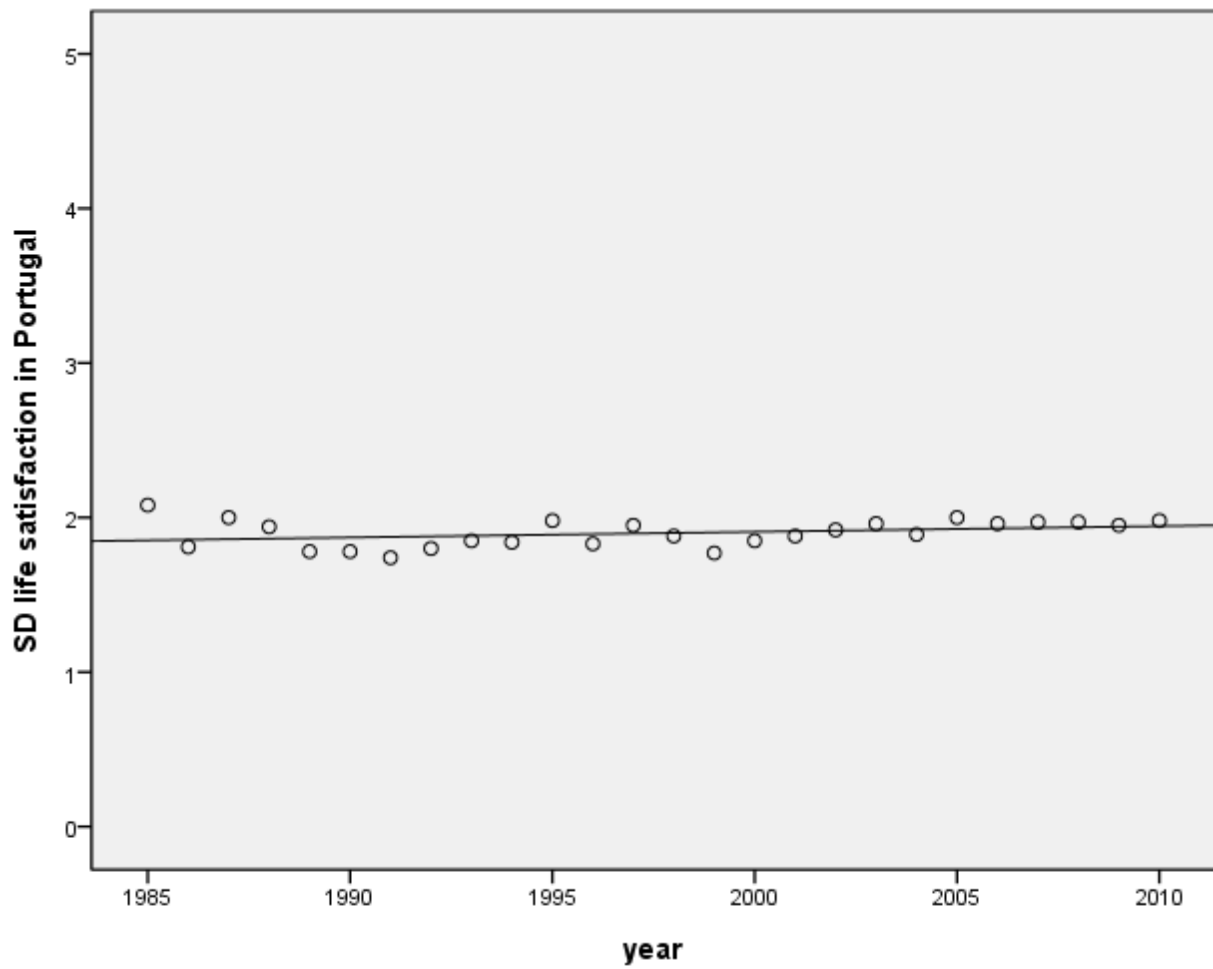Variable code in data file 'Trends in Nations': eqls4_sp

18

UK (Great Britain)

Data on happiness taken from Nation report United Kingdom
Based on responses to 4-step question on life satisfaction
Question code in Item Bank: O-SLL/u/sq/v/4/b
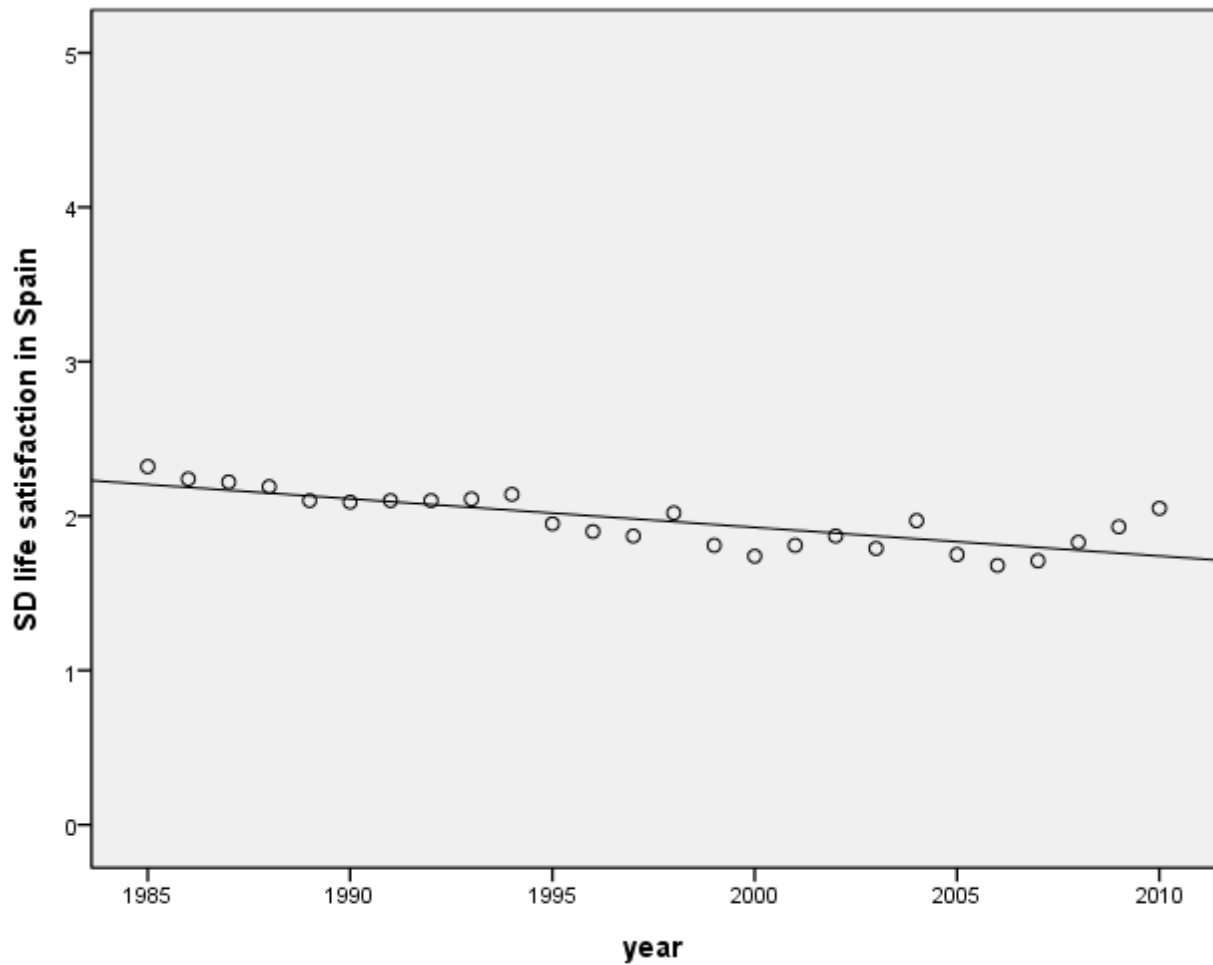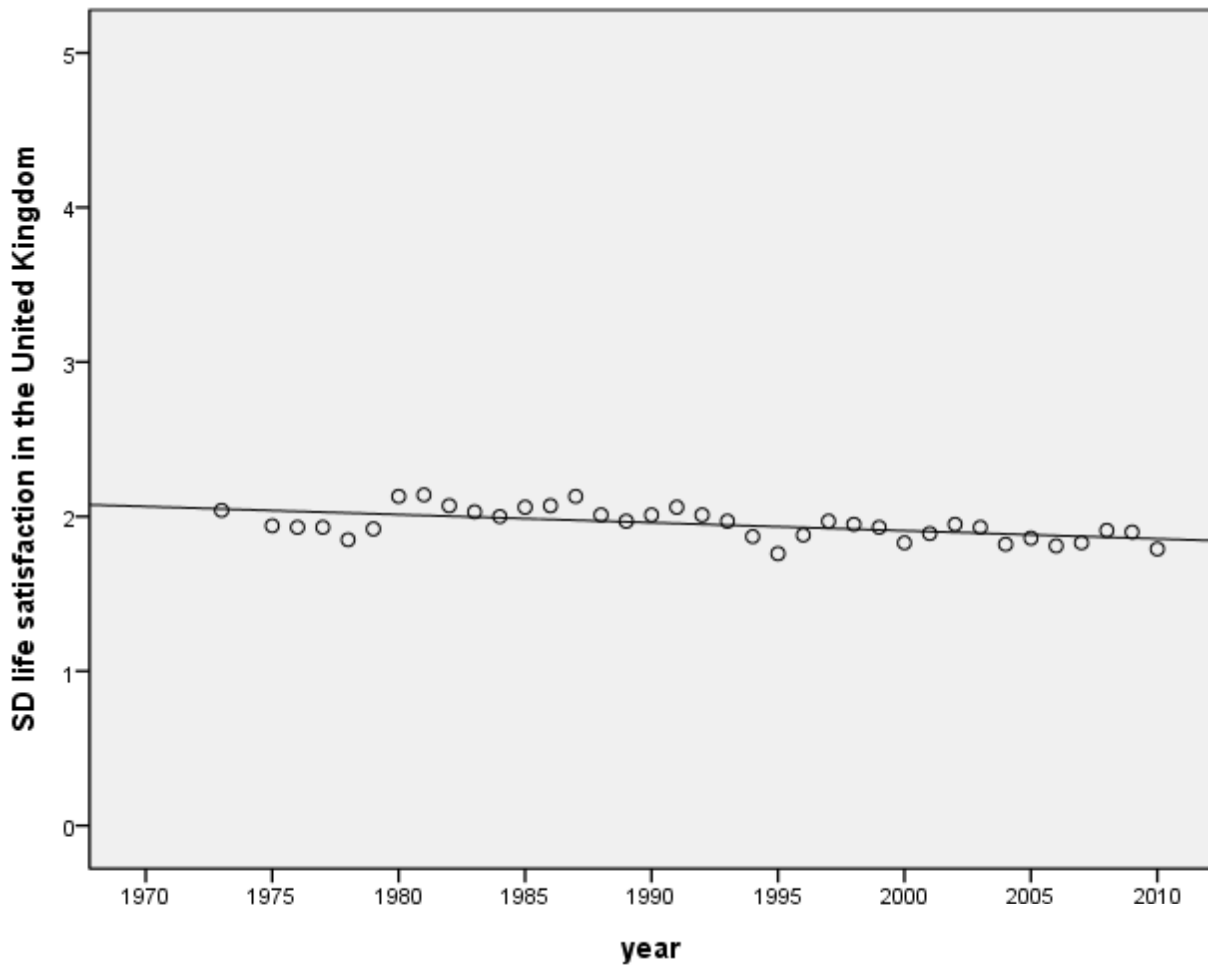Variable code in data file 'Trends in Nations': eqls4_uk

USA
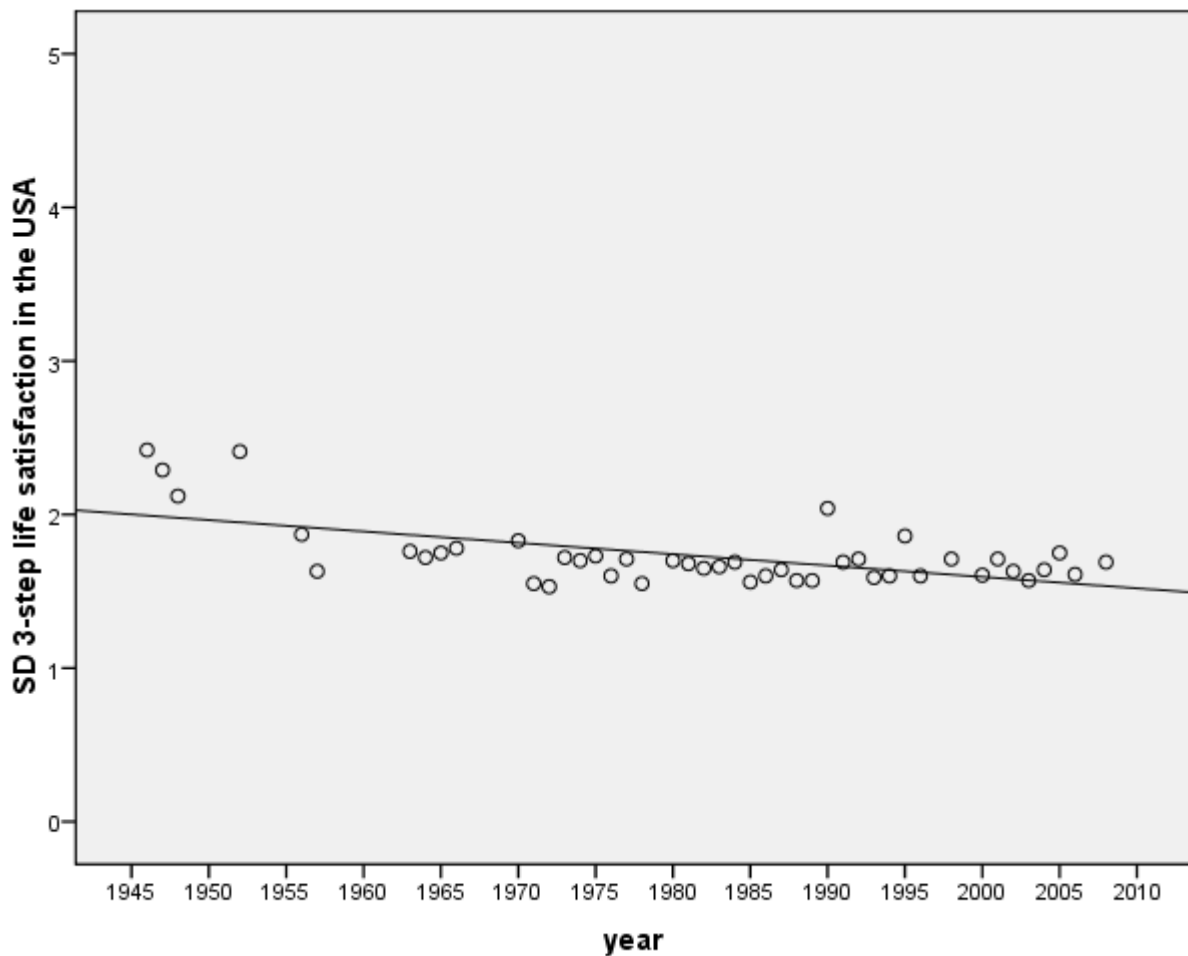
Data on happiness taken from Nation report USA

Item	Code*	Era	B	CI 95
2-step life satisfactionO-SLP/g/sq/2/b	eqls2_us	1978-2008	**−.010**	-.015 -.005
3-step happiness (chart above) O-HL/c/sq/v/3/aa and O-HL/g/sq/v/3/ variants a, d, f g	eqhl3_us	1946-2008	**−.007**	−.010 -.004
4-step happiness O-HL/c/sq/v/4/f, O-HL/g/sq/v/4/b and O-HL/u/sq/v/4/a and aa	eqhl4_us	1946-2006	**−.005**	−.009 +.000
11-step best worst C-BW/c/sq/l/11/a	eqbw11_us	1959-2007	**−.009**	−.012 −.006

 * Variable code in data file Trends in Nations

Technical details

1. Happiness assessed by means of surveys in general public samples. This list is based on responses to identical questions on happiness over time.

2. In this ranking the focus is not on the *level* of happiness in the country, but on *inequality* in happiness among citizens.

   - Inequality of happiness among citizens in a country can be measured by the dispersion of responses to survey questions. The degree of dispersion can be quantified with the standard deviation. The choice for this statistic is explained in Kalmijn, W.M. & Veenhoven, R. 'Measuring Inequality of Happiness in Nations: In Search for Proper Statistics' Journal of Happiness Studies, 2005, 6:357-396

   - An application of this method is reported in; R. Veenhoven, *Return of inequality in modern society? Test by trend in dispersion of life satisfaction across time and nations* Journal of Happiness Studies, 2005, 6:457-487

3. The trend lines in this report are based on slightly different questions:

   - In the EU nations, happiness was assessed by a single item on life satisfaction:
     "How satisfied are you with the life you lead?
     - Very satisfied (4)
     - Fairly satisfied (3)
     - Not very satisfied (2)
     - Not at all satisfied (1)

     This question is categorized as type 121B, subtype O-SLL/u/sq/v/4/b.

   - In Japan a similar question on life satisfaction was used:
     "On the whole, are you.. with the life you lead?"
     - Fully satisfied (4)
     - Not fully, but to some extent satisfied (3)
     - As yet unsatisfied (2)
     - Very dissatisfied (1)

     This question is categorized as O-SLL/u/sq/v/4/. Three slightly different variants have been used: in 1958-63 version a, 1964-1983 version e and 1980-1991 also version O-SLu/c/sq/v/4/f . Since 1992 the question O-SLW/c/sq/v/4/e is used.
     The exact wording of these variants can be found in the item bank.

     From 1978 on, the following question has also been used in Japan
     Overall, how satisfied are you with your present life?
     - Very satisfied (5)
     - Fairly satisfied (4)
     - Neither satisfied nor dissatisfied (3)
     - Fairly dissatisfied (2)
     - Very dissatisfied (1)

This question is categorized as O-SLW/u/sq/v/5/h and has also been used in slightly different variants O-SLW/c/sq/v/5 (fc, k, l, r). The exact wording of which can be found in the item bank.

- In the USA happiness was assessed using several slightly different questions about happiness, rated on a 3-step verbal scale (type 111A). The most commonly used question reads:

  ”Taken all together, how would you say things are these days?
  Would you say you are….:
    o Very happy   (3)
    o Pretty happy   (2)
    o Not too happy   (1)
  This question is categorized as sub-type O-HL/c/sq/v/3/aa. and O-HL/g/sq/v/3/ variants a, d, f g, l

  In the USA happiness has also been assessed by means of three other types of questions:
        o 2-step life satisfaction, code: O-SLP/g/sq/2/b
        o 4-step happiness, several variants codeO-HL/c/sq/v/4/f, O-HL/g/sq/v/4/b and O-HL/u/sq/v/4/a and aa
        o 11-step best-worst possible life, code: C-BW/c/sq/l/11/a
  The observed trends in the responses to these latter three questions are mentioned in a separate table below the graph of the trend in 3-step happiness in the USA.

- The full text of these questions can be found in the Collection Measures of Happiness of this World Database of Happiness

- The original scores on these questions were transformed linearly to a comparable 0-10 scale.

- Section 7/3.3.3 of the introductory text provides more detail about the classification of questions and transformation of scores.

4. The variables used here are also described in the codebook of the data file 'Trend in nations', variable sd-happiness.

5. The highest possible standard deviation on this scale is 5.00, when one half of the population is very happy and the other half unhappy, with no scores in between. The lowest possible score is 0, when all are equally happy (either happy or unhappy).

6. The regression-coefficient stands for the size of the slope of the linear regression line trough the dots (averages) in the time charts. A positive coefficient denotes a rise in inequality in happiness, and a negative coefficient a decline. A regression coefficient of –.01 means 0.01 points decrease of inequality in happiness per year.

7. The observed regression coefficient is based on a sample of assessments of happiness during this era and the coefficient in this sample may differ from the 'true' coefficient. The confidence interval gives an estimated range in which this true coefficient is likely to be included with 95% probability.

8. This trend report limits to time series of at least 20 years involving 10 or more comparable data points.

9. The data are recorded in the SPSS file Trends in Nations, which is available on request.

Cite as:

Veenhoven, R. *Trend inequality of happiness in nations 1946-2010: How much happiness differs across citizens,* World Database of Happiness, Trend Report Inequality in Happiness, Erasmus University Rotterdam, 2011, Rotterdam, The Netherlands. Available at: http://worlddatabaseofhappiness.eur.nl/hap_nat/findingreports/Archive/TrendReport_InequalityHappiness_1946-2010.pdf

Earlier trend reports

- http://worlddatabaseofhappiness.eur.nl/hap_nat/findingreports/Archive/TrendReport_InequalityHappiness_1946-2006.pdf

- http://worlddatabaseofhappiness.eur.nl/hap_nat/findingreports/Archive/TrendReport_InequalityHappiness_1946-2008.pdf

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