Trends Inequality-Adjusted Happiness in Nations
1946-2010
How well nations combine a high level of happiness
with an equitable distribution

Table 1
Change 1973-2010 in points on 0-100 scale[1]

Rise *Significant increase*		Stable *No significant change*		Decline *Significant decrease*	
Italy	+ 7.70	Ireland	+3.11	Portugal	– 6.84
France	+ 6.11	Japan	+1.45		
Denmark	+ 6.03	West-Germany	+ 0.14		
Spain	+ 4.63	Greece	– 0.90		
Luxembourg	+ 4.26	Belgium	– 2.89		
EU9	+ 3.82				
UK	+ 3.33				
Netherlands	+ 2.96				
USA	+ 2.82				

Data: table 2, Trend lines on graphs

Note: Greece:1981-2010; Spain and Portugal: 1985-2010; Japan and USA 1973-2007; EU9 until 2009

Table 2
Trend expressed in average annual increase

Nation	Period [6]	Average annual increase (B)					
		Average happiness[2,3]		*Standard deviation happiness*[2,3]		*IAH*[1]	
		B	*CI 95*	*B*	*CI 95*	*B*	*CI 95*
[Belgium]	1973-2010	–.009	–.019; +.001	**–.003**	–.006 –.001	–.078	–.177; +.021
[UK]	1973-2010	**+.007**	+.003 ; +.011	**–.005**	–.007; –.003	**+.090**	+ 050; +.130
[Denmark]	1973-2010	**+.015**	+.011; +.018	**–.005**	–.008 ; –003	**+.163**	+.122; +.205
[EU9]	1973-2009	**+.009**	+.005 ; +.012	**–.004**	–.005 –.003	**+.106**	+.072; +.140
[France]	1973-2010	**+.015**	+.009; +.021	**–.004**	–.006; +.002	**+.165**	+.106; +.223
[Germany]	1990-2010	+.001	–.017; +.020	**+.008**	+.003; +.013	–.019	–.208; +.169
- [former West]	1973-2009	+.000	–.007; +.007	**+.003**	+.000; +.005	+.004	–.064; +.073
- [former East]	1990-2009	+.000	–.017; +.018	**+.011**	+.006; +.016	–.040	–.218; +.138
[Greece]	1981-2010	–.010	–.023; +.004	**–.016**	–.020; –.011	–.030	–.159; +.100
[Ireland]	1973-2010	+.005	–.004; +.013	**–.010**	–.014; –.006	+.084	-.007; +.174
[Italy]	1973-2010	**+.017**	+.009; +.025	**–.011**	–.013; –.008	**+.208**	+.128; +.288
[Japan]	1958-2007	**+.007**	–.002; +.012	–.003	–.006; +.000	**+.066**	+.026; +.106
	1973-2007	+.006	–.003; +.014	-.002	–.007 ; +.004	+.044	–.029; +.117
[Luxembourg]	1973-2010	**+.011**	+.006; +.015	–.003	–.007 ; +.001	**+.115**	–.060; +.169

		B	CI 95				
Netherlands	1973-2010	**+.007**	−.002; +.012	**−.003**	−.005; .000	**+.080**	+.028; +.132
Portugal	1985-2010	**−.026**	−.039; −.013	+.004	−.001;+.008	**−.263**	−.398; -.129
Spain	1985-2010	+.011	−.002; +.024	**−.019**	−.025;+.012	**+.178**	+.039;+.317
USA	1946-2008	+.003	−.001; +.007	**−.005**	−.008;+.003	**+.058**	+.020; +.096
	1973-2008	**+.009**	+.002;+.016	**−.007**	−.010;+.004	**+.088**	+.023; +.152

B = linear regression coefficient[4]; CI 95 = 95% confidence interval[5]

Trend graphs

Belgium
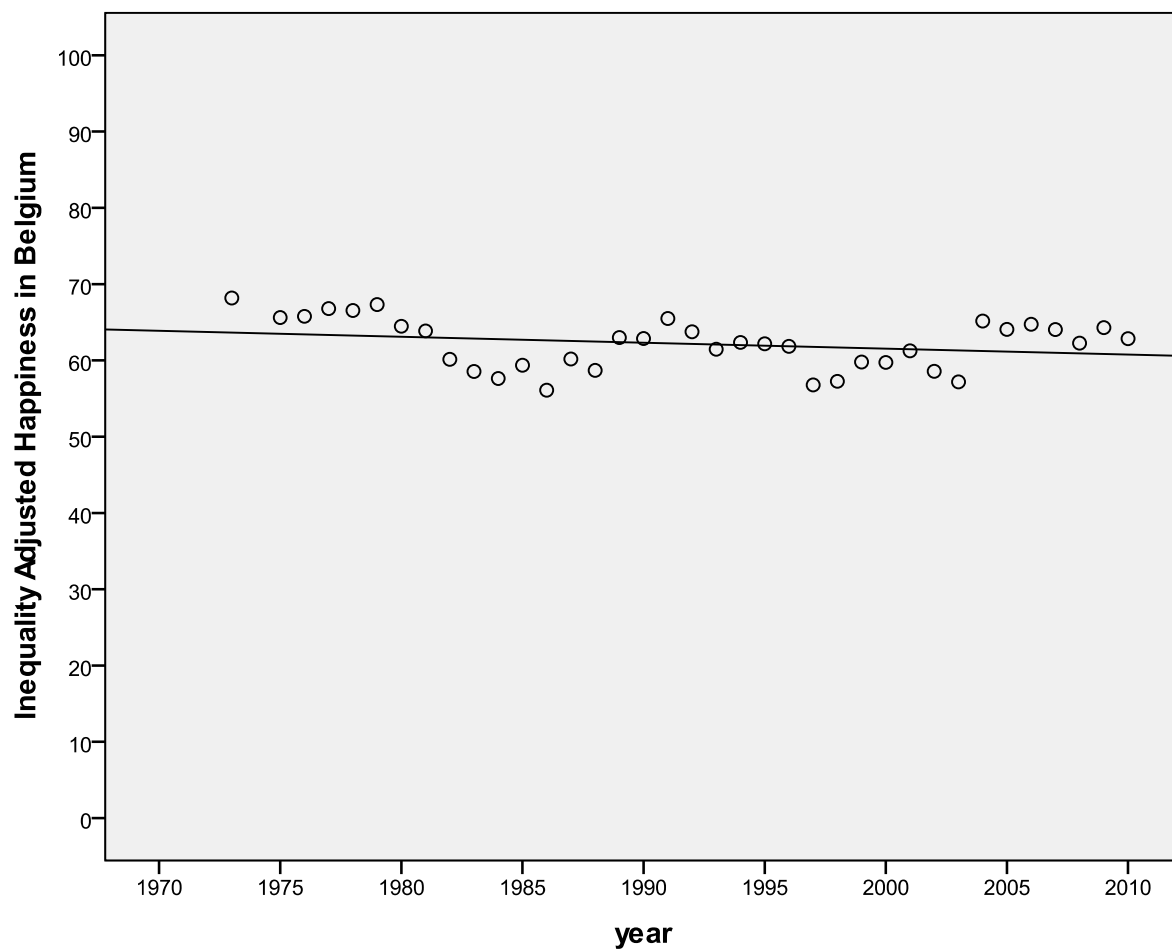
Based on responses to 4-step question on life satisfaction
Data on happiness taken from Nation report Belgium
Question code in collection Measures of Happiness: O-SLL/u/sq/v/4/b
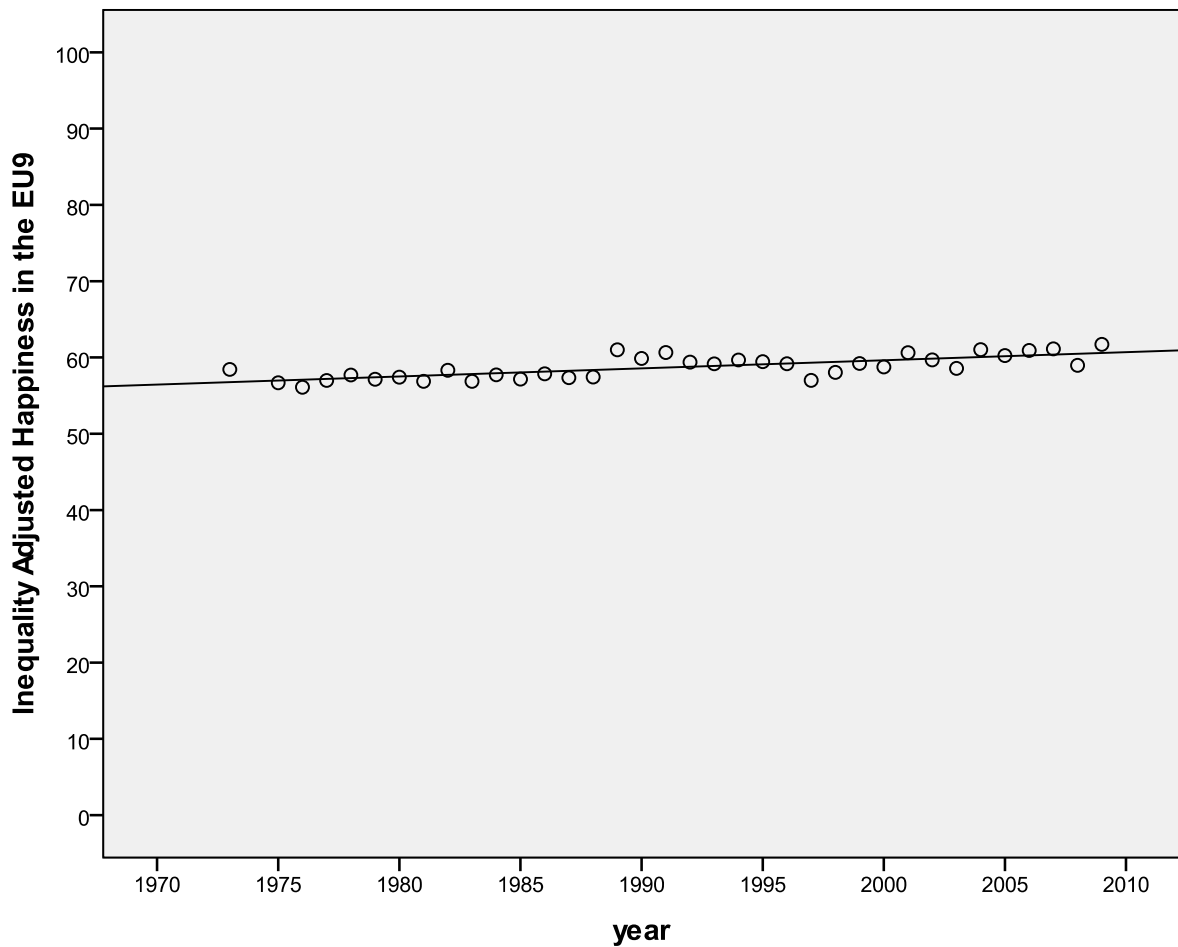Variable code in data file 'Trends in nations': iah_be2

Denmark
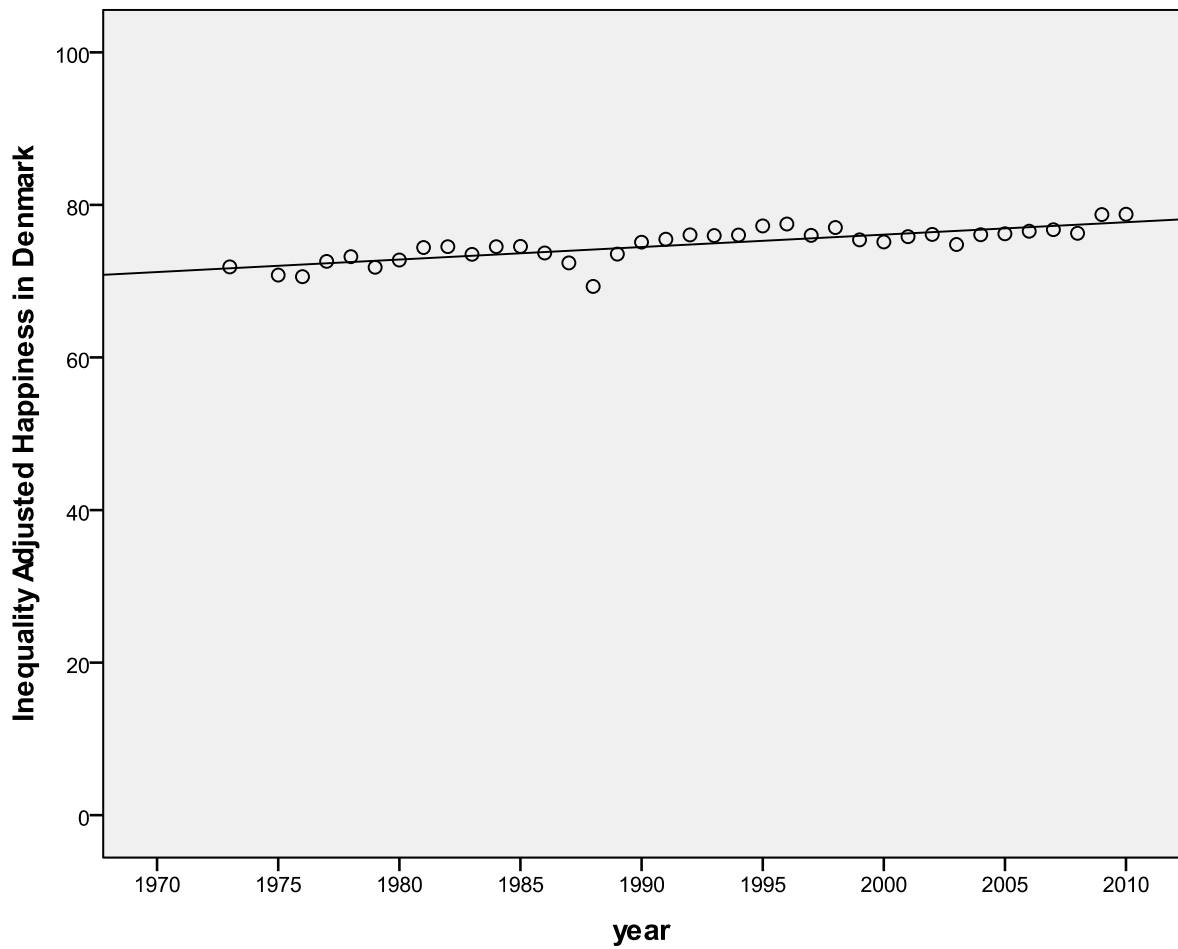
Data on happiness taken from [Nation report Denmark](#)
Based on responses to 4-step question on life satisfaction
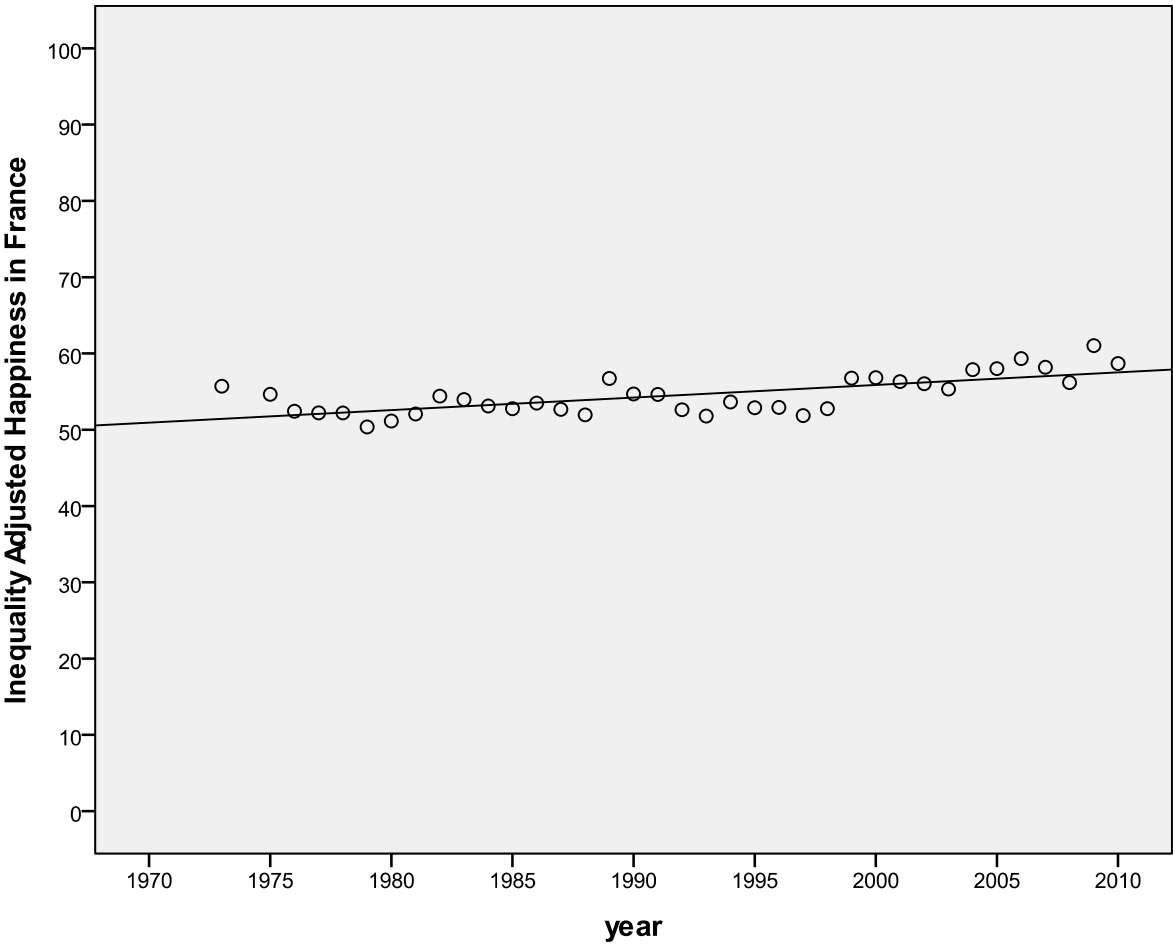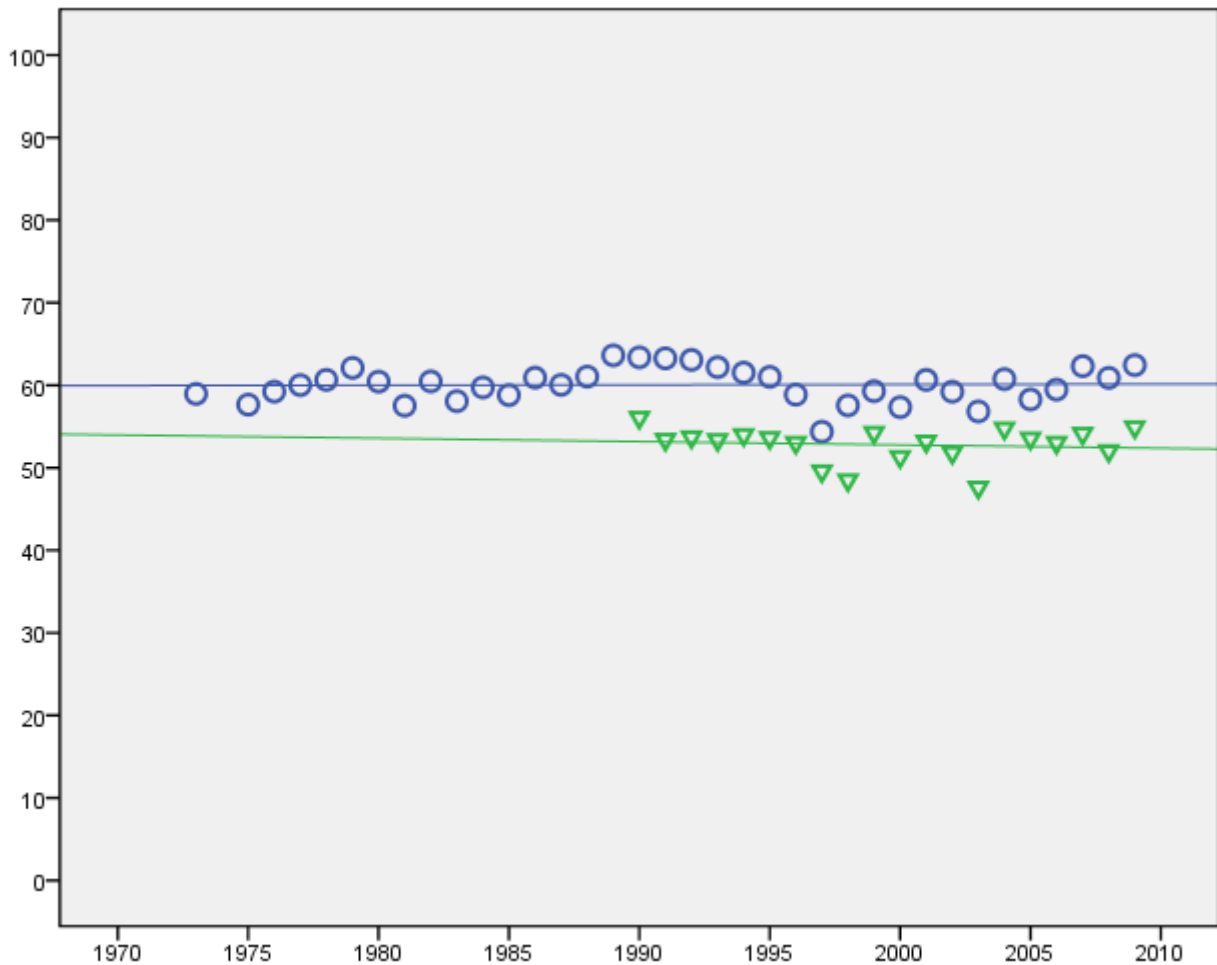Question code in collection Measures of Happiness: [O-SLL/u/sq/v/4/b](#)
Variable code in data file 'Trends in nations': iah_dk2

EU9

Based on responses to 4-step question on life satisfaction
Question code in collection Measures of Happiness: O-SLL/u/sq/v/4/b
Variable code in data file 'Trends in nations': iah_eu9_2

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

France

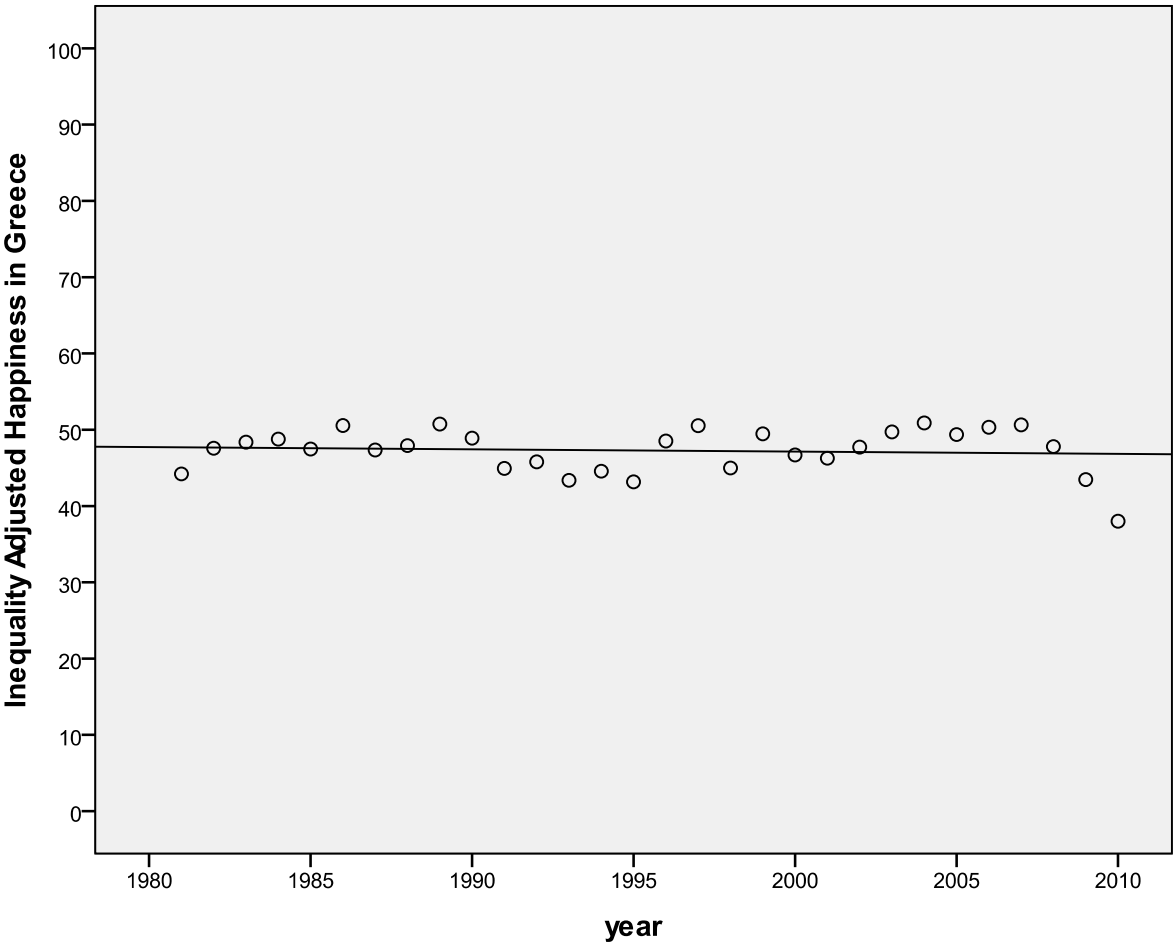Data on happiness taken from [Nation report France](#)
Based on responses to 4-step question on life satisfaction
Question code in collection Measures of Happiness: [O-SLL/u/sq/v/4/b](#)
Variable code in data file 'Trends in nations': iah_fr2

Germany: Reunited after 1990
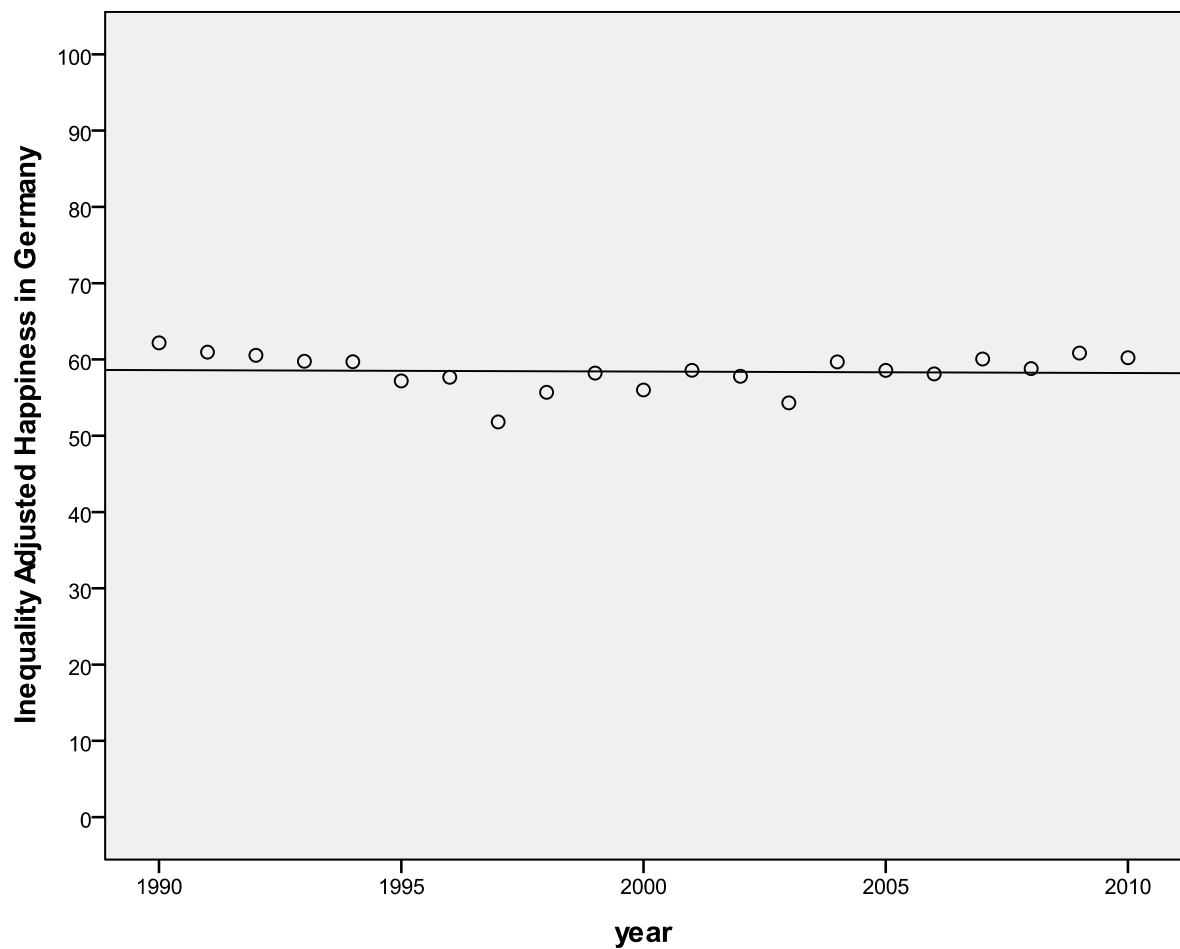
Data on happiness taken from Nation report Germany
Based on responses to 4-step question on life satisfaction
Question code in collection Measures of Happiness: O-SLL/u/sq/v/4/b
Variable code in data file 'Trends in nations': iah_de2

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

Based on responses to 4-step question on life satisfaction
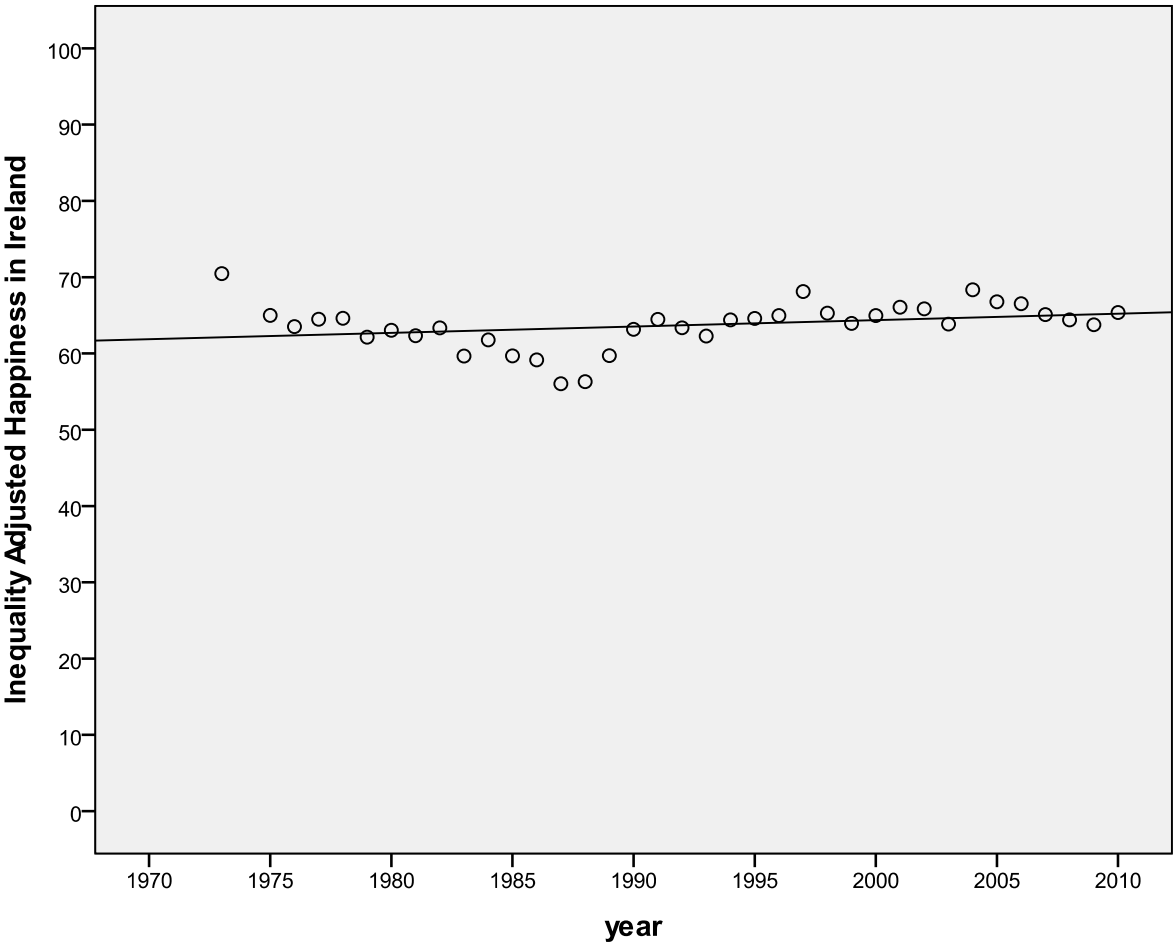Question code in collection Measures of Happiness: O-SLL/u/sq/v/4/b
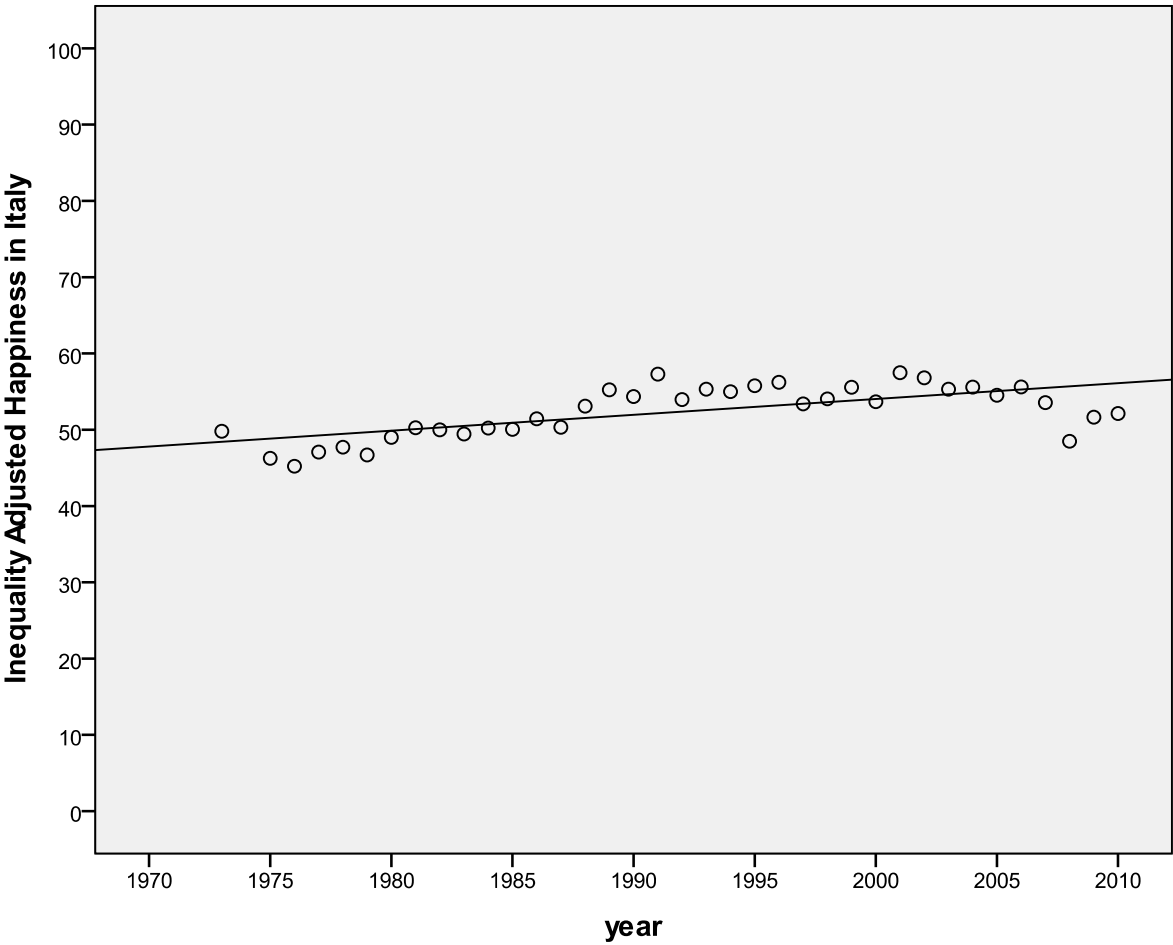Variable code in data file 'Trends in nations': iah_dew2 and iah-dee2

Greece

Data on happiness taken from Nation report Greece
Based on responses to 4-step question on life satisfaction
Question code in collection Measures of Happiness: O-SLL/u/sq/v/4/b
Variable code in data file 'Trends in nations': iah_gr2

Ireland
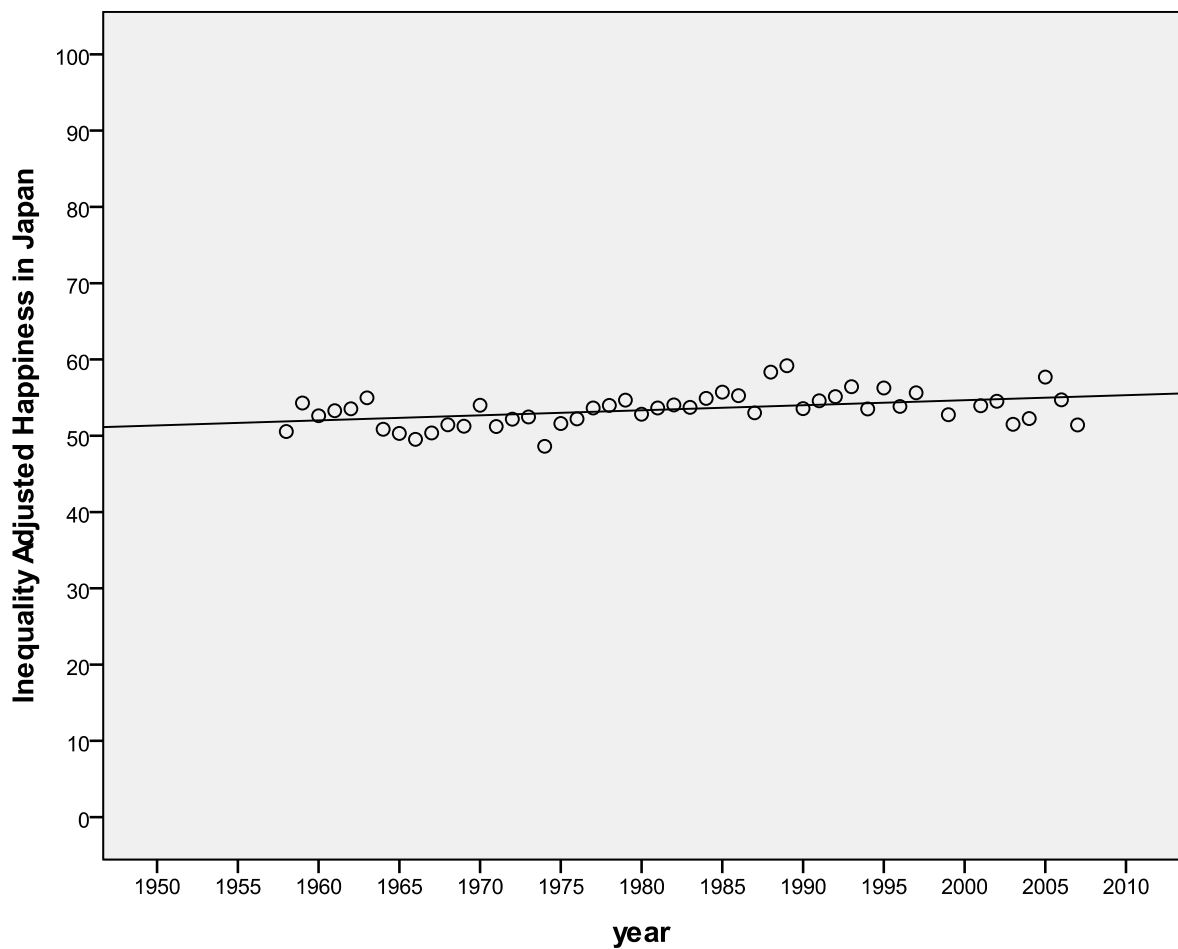

Data on happiness taken from Nation report Ireland
Based on responses to 4-step question on life satisfaction
Question code in collection Measures of Happiness: O-SLL/u/sq/v/4/b
Variable code in data file 'Trends in Nations': iah_ie2

Italy

Data on happiness taken from Nation report Italy
Based on responses to 4-step question on life satisfaction
Question code in collection Measures of Happiness: O-SLL/u/sq/v/4/b
Variable code in data file 'Trends in Nations': iah_it2
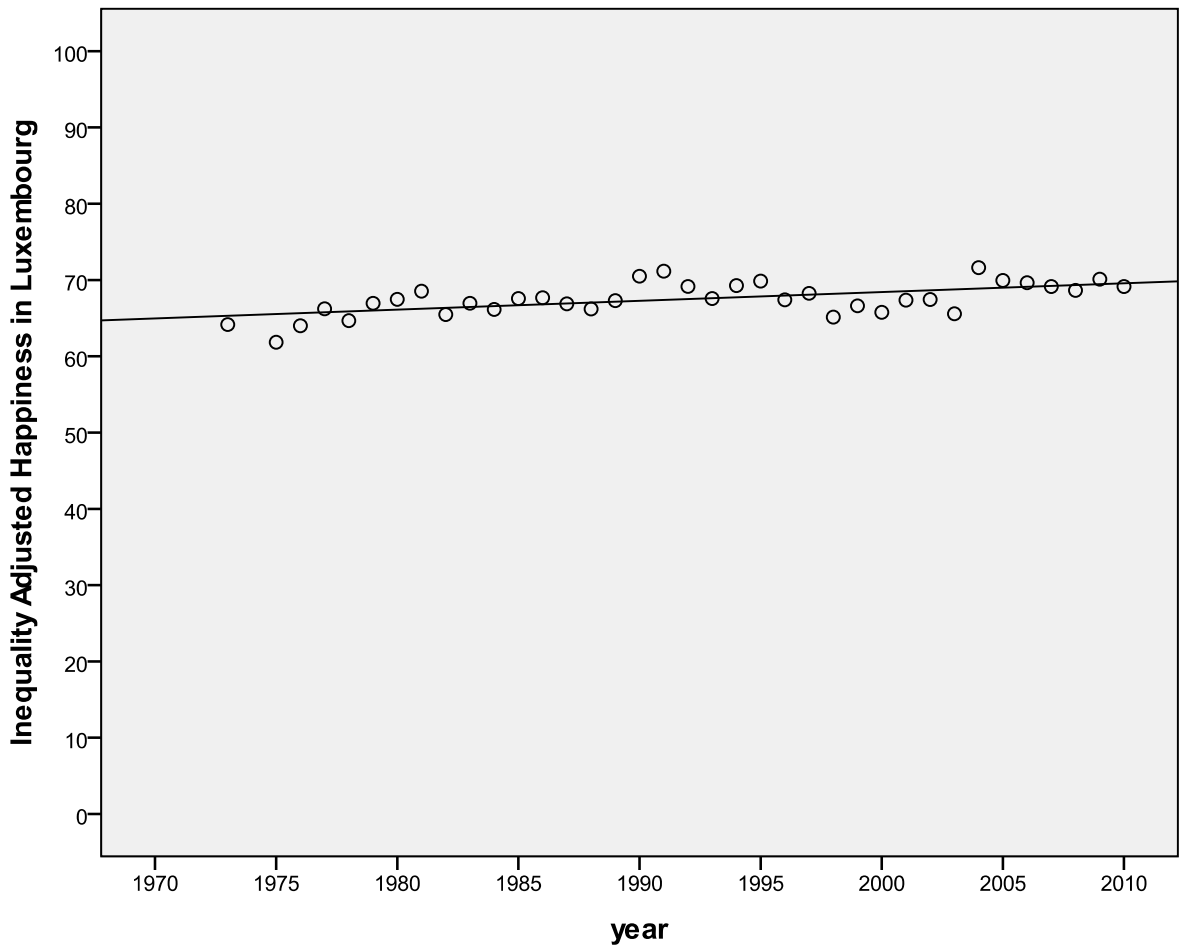
Japan

Data on happiness taken from Nation report Japan
Based on responses to 4 and 5-step questions on life satisfaction
Question codes in collection 'Measures of Happiness': O-SLL/u/sq/v/4..
variants a, e, O-SLW/c/sq/v/4/e, O-SLu/c/sq/v/4/f, O-SLu/u/sq/v/4/e, 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
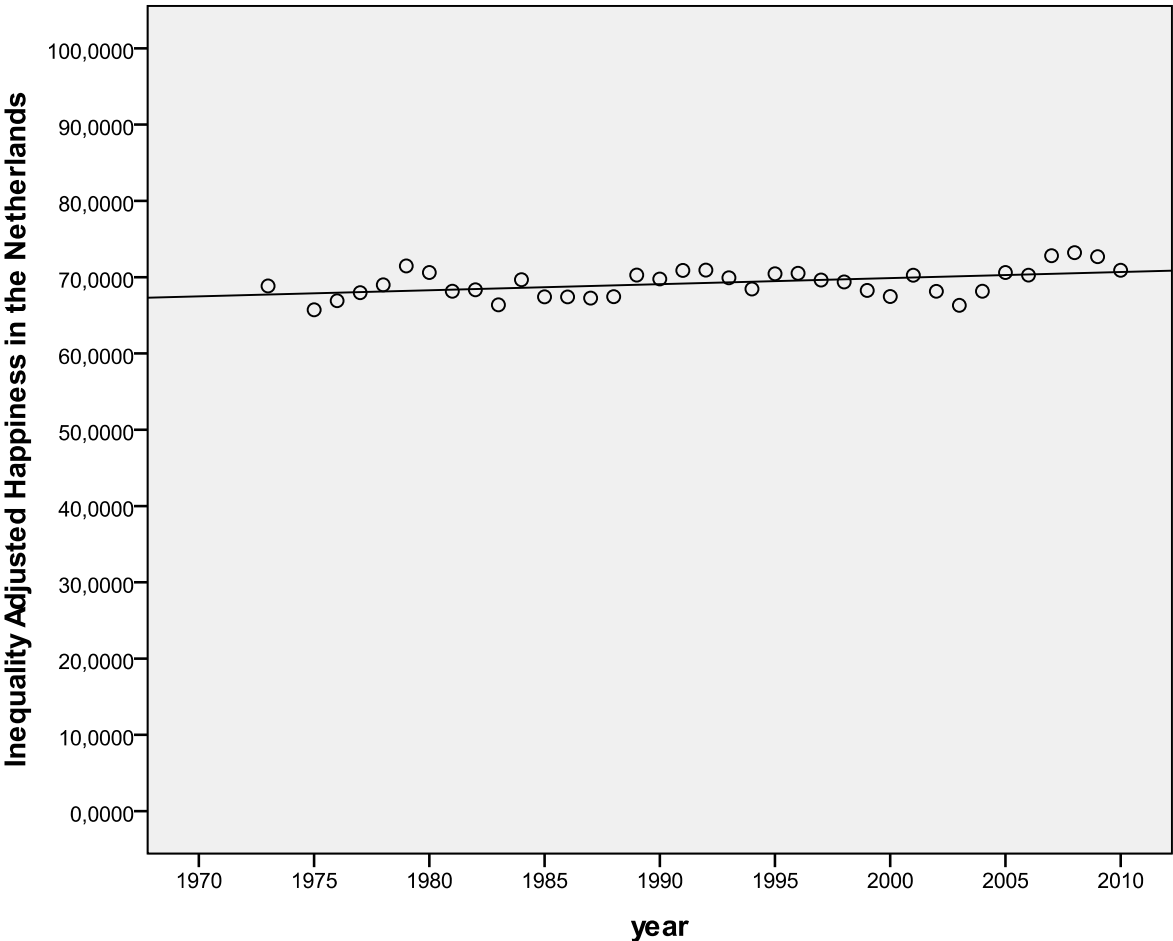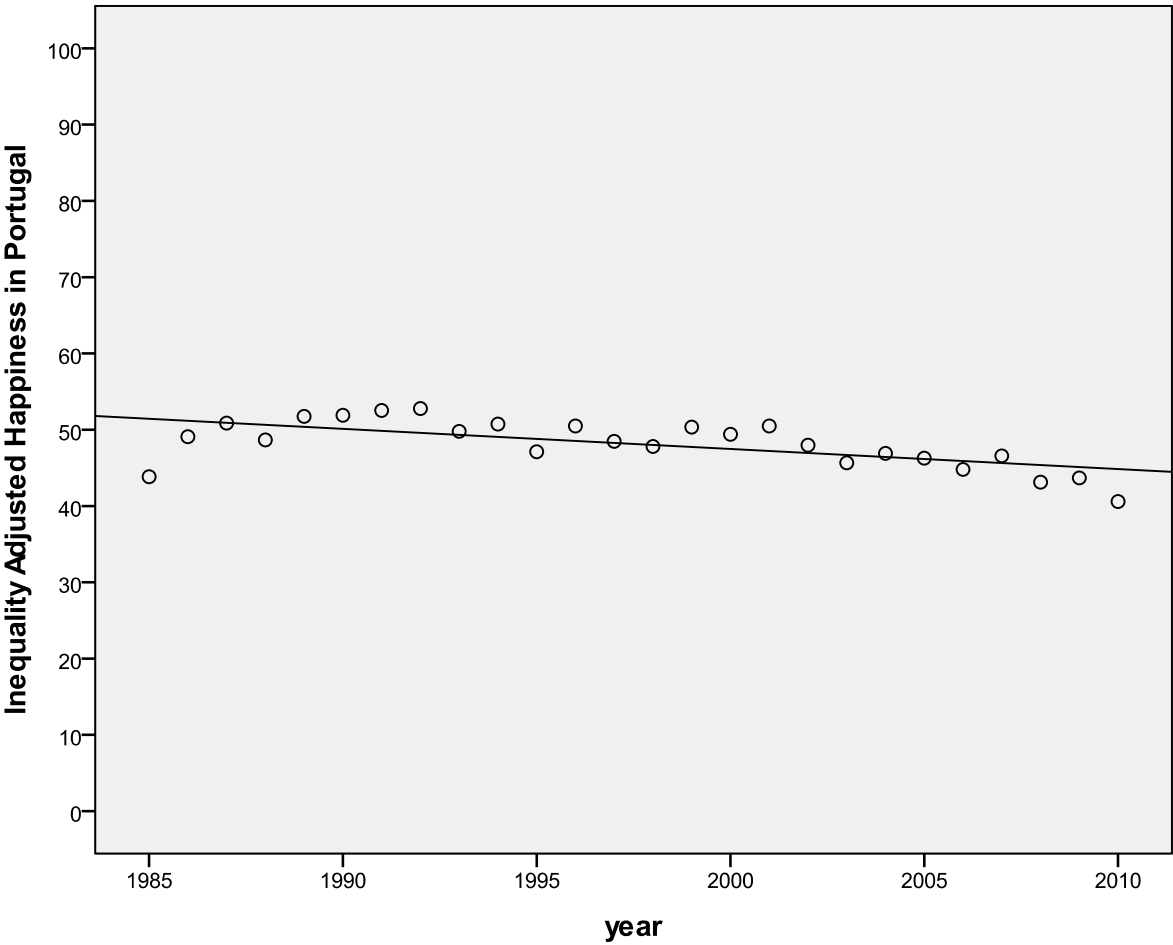Variable code data file 'Trends in Nations': iah_jp2

Luxembourg

Data on happiness taken from Nation report Luxembourg
Based on responses to 4-step question on life satisfaction
Question code in collection Measures of Happiness: O-SLL/u/sq/v/4/b
Variable code in data file 'Trends in Nations': iah_lu2

Netherlands

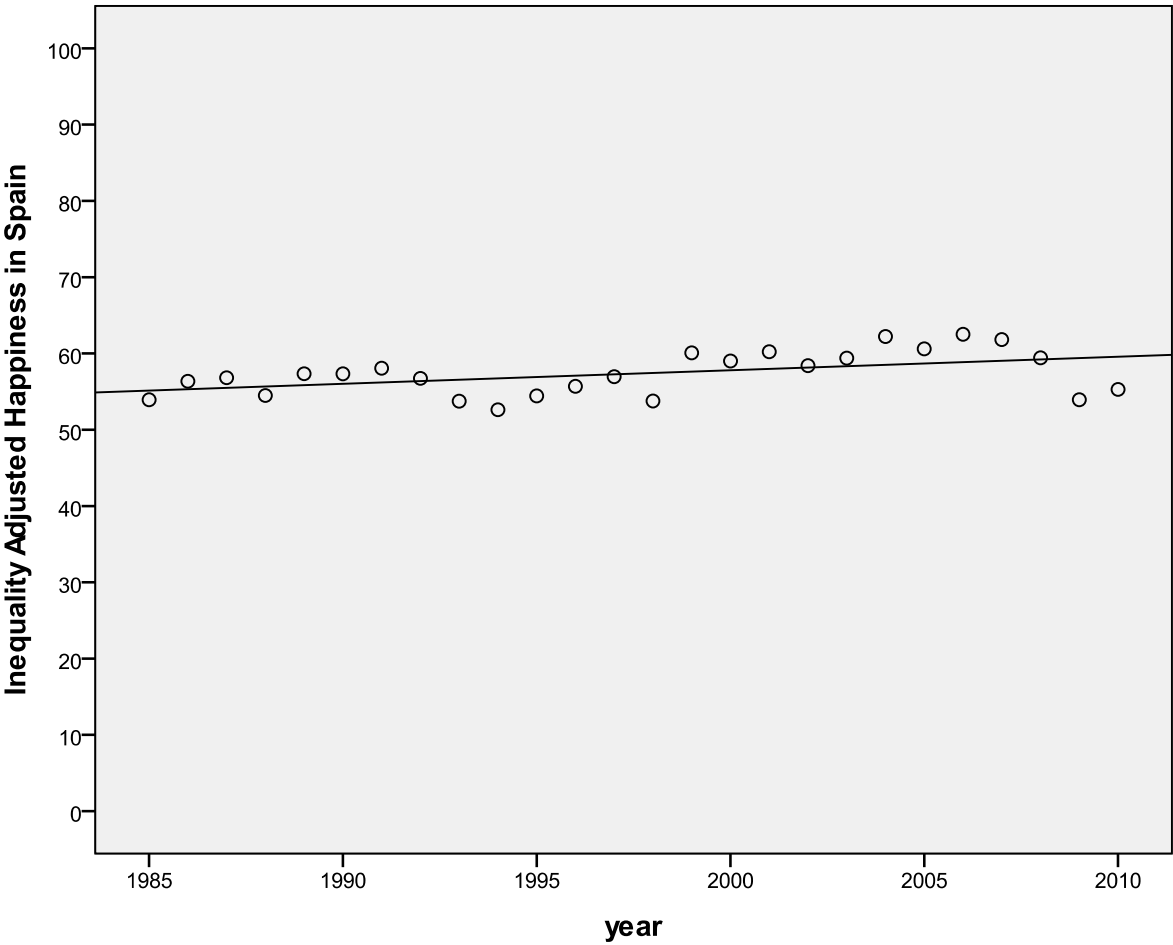
Data on happiness taken from Nation report Netherlands
Based on responses to 4-step question on life satisfaction
Question code in collection Measures of Happiness: O-SLL/u/sq/v/4/b
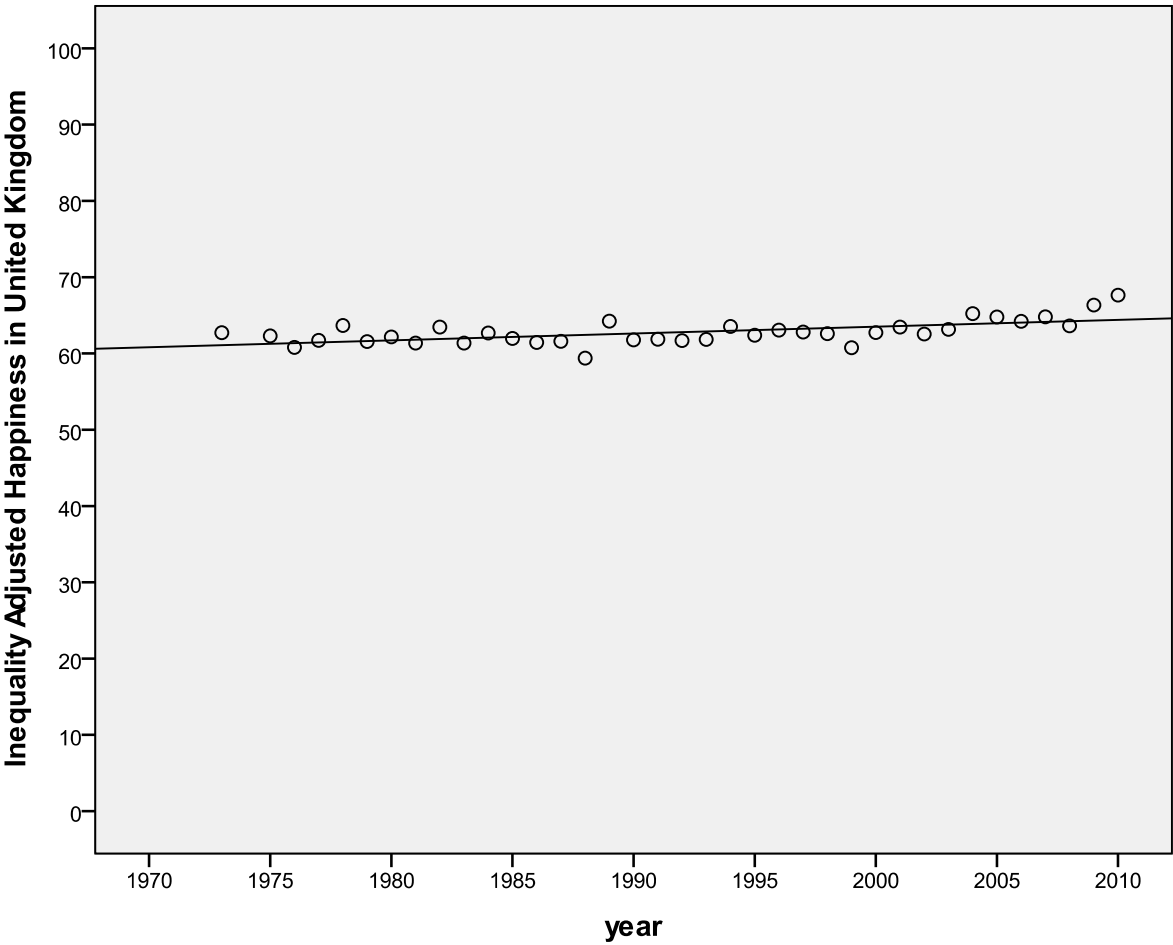Variable code in data file 'Trends in Nations': iah_nl

Portugal

Data on happiness taken from Nation report Portugal
Based on responses to 4-step question on life satisfaction
Question code in collection Measures of Happiness: O-SLL/u/sq/v/4/b
Variable code in data file 'Trends in Nations': iah_pt2

Spain

Data on happiness taken from Nation report Spain
Based on responses to 4-step question on life satisfaction
Question code in collection Measures of Happiness: O-SLL/u/sq/v/4/b
Variable code in data file 'Trends in Nations': iah_sp2

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 collection Measures of Happiness: O-SLL/u/sq/v/4/b
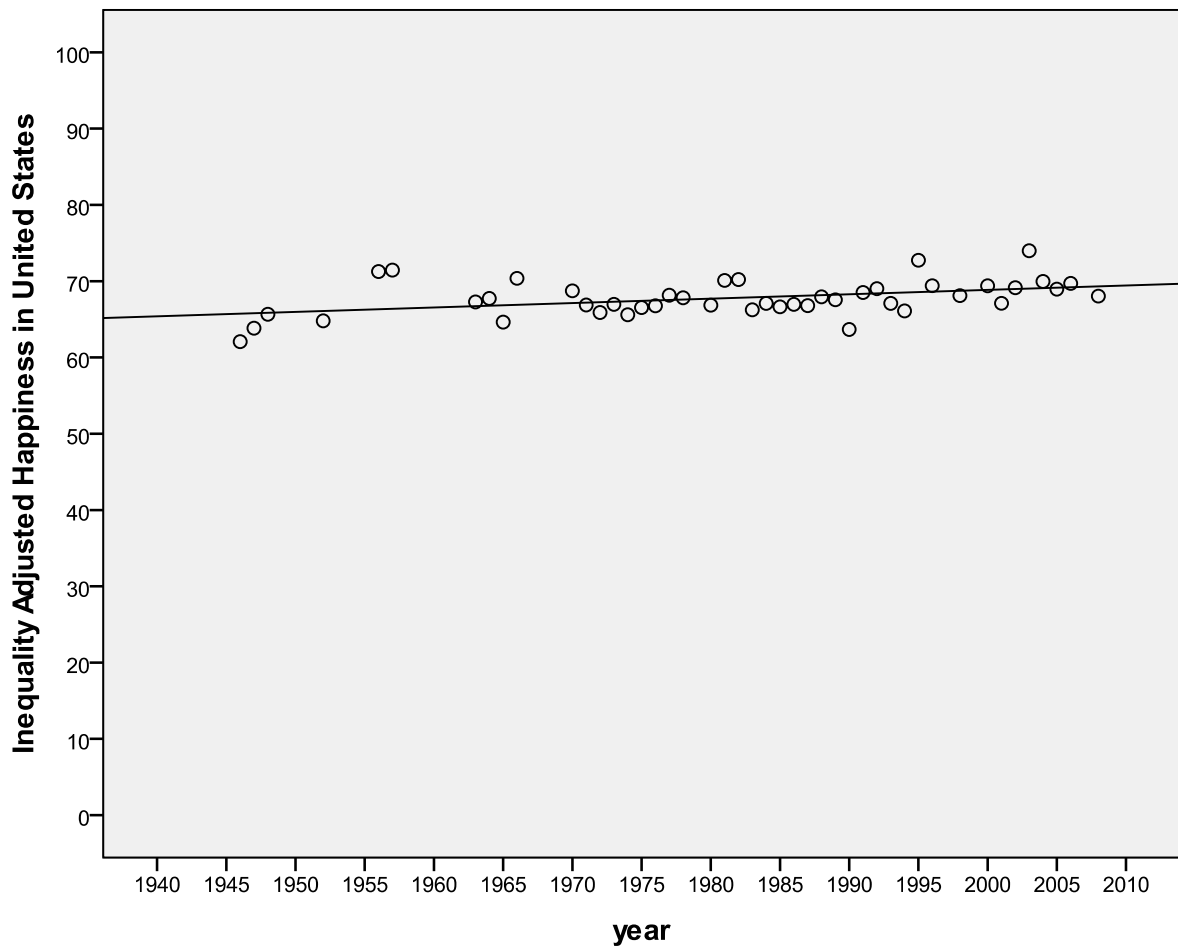Variable code in data file 'Trends in nations': iah_uk2

USA

Data on happiness taken from Nation report USA
Question code in collection 'Measures of happiness': O-HL/c/sq/v/3/aa and O-HL/g/sq/v/3/
variants a, d, f g, l, O-HL/c/sq/v/4/f, O-HL/g/sq/v/4/b and O-HL/u/sq/v/4/a and aa
Steeper trends (over shorter periods) are obtained with the use of a question on life-
satisfaction (O-SLP/g/sq/2/b) and a questions on the rating of life between 'best and worst
possible' (C-BW/c/sq/l/11/a)
Variable code in data file 'Trends in Nations': iah_us2

Technical details

1. The degree to which a nation combines a high level of happiness with an equitable distribution of it can be quantified in a measure called 'Inequality-Adjusted-Happiness'.

   Inequality-Adjusted Happiness (IAH) is calculated using the following formula:

   $$IAH = 96.0 \, (|m-u| - 0.414s) / |h-u| + 4.0$$

   where
   m = average happiness
   s = standard deviation of happiness distribution
   u = lowest possible score on happiness scale
   h = highest possible score on happiness scale

   If happiness is measured on a 0 to 10 scale, which is the case here, the above formula can be written as:

   $IAH = 4.0 + 9.60m - 3.97s$

   The concept and measurement are explained in: Veenhoven, R. & Kalmijn, W.M. *Inequality-Adjusted Happiness in Nations. Egalitarianism and Utilitarianism Married in a New Index of Societal Performance,* Journal of Happiness Studies, 2005, 6: 421-455.

2. Happiness is assessed by means of surveys in general public samples. This list is based on surveys that used the same question over the years.

3. The trend lines in this report are based on responses to slightly different questions about happiness:
   - In the EU nations, happiness was assessed using a single item on life satisfaction, with four response options.
   - In Japan two similar questions on life satisfaction were used, with four and five response options.
   - In the USA a 3-step question on happiness was used.

   These questions are reported in full detail in the technical details with Finding Report 2007-1.

   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 items and transformation of scores.

4. The variables used here are also presented in the codebook of the data file 'Trends in Nations', variable inequality-adjusted happiness

5. The average annual change is expressed in a regression coefficient that stands for the size of the slope of the linear regression line trough the dots (averages) in the time charts.

A positive coefficient denotes an average increase in inequality adjusted happiness, and a negative coefficient a decline. A regression coefficient of +.1 means 0.1 point increase on this 0-100 scale per year, which implies that a one point rise of IAH would take ten years at this pace of change.

6. 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.

7. This report restricts to time series of 15 years at least.

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

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World Database of Happiness, Erasmus University Rotterdam, 2011, Rotterdam, The Netherlands.
Available at:
http://www.worlddatabaseofhappiness.eur.nl/hap_nat/findingreports/Archive/TrendReport_InequalityAdjustedHappiness_1946-2010.pdf

Earlier reports:
- http://www.worlddatabaseofhappiness.eur.nl/hap_nat/findingreports/Archive/TrendReport_InequalityAdjustedHappiness_1946-2004.pdf

- http://www.worlddatabaseofhappiness.eur.nl/hap_nat/findingreports/Archive/TrendReport_InequalityAdjustedHappiness_1946-2006.pdf

- http://www.worlddatabaseofhappiness.eur.nl/hap_nat/findingreports/Archive/TrendReport_InequalityAdjustedHappiness_1946-2008.pdf

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