

# Life Satisfaction over the Life Cycle in Europe

## *Extended Abstract*

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### **Introduction**

How does life satisfaction change as people age? Is the pattern consistent across countries? Is it the same across genders and socioeconomic groups? The main propose of this article is to answer these questions.

The aim of this article is not to be confused with the aim of a closely related strand of the literature that aims to find the *pure effect* of aging on life satisfaction. This article contributes to the existing life satisfaction literature focused on identifying the average pattern of *experienced* life satisfaction over the life cycle. In the latter strand of literature, the questions this article addresses have not been answered. The contribution of this article is providing a study that generates meaningful comparisons between countries by using uniform data and the same methodology to study a handful of countries. Furthermore, time coverage of the data are sufficiently long to control for cohort effects, and the sample size is sufficiently large to study subsets of the population.

### **Data**

Eurobarometer data from 62 waves (repeated cross sections) were compiled and harmonized across years. The data spans 1973-2010 and covers 17 countries<sup>1</sup>. All of the 17 countries have a minimum of 17 years of coverage, which was tested and found to be sufficiently long to control for cohort effects. Nine countries have at least 36 years of coverage. Sample size per country varies from just around 25,000 to 60,000.

Ages 19 and under and 81 and older were dropped due to small numbers of observations. Students were also dropped because of difficulties controlling for level of highest completed education. Five waves were also dropped due to differences in which the survey questions were administered.

Life satisfaction was measured by the question, "On the whole, are you very satisfied, fairly satisfied, not very satisfied, or not at all satisfied with the life you lead?" The respondents then ranked their response on a 1-4 scale. Responses were recoded so that 4 corresponded to the response "very satisfied" and 1 to "not at all satisfied."

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<sup>1</sup> France, Belgium, Netherlands, West Germany, Italy, Luxembourg, Denmark, Ireland, Great Britain, Northern Ireland, Greece, Spain, Portugal, East Germany, Norway, Finland, Sweden, and Austria.

<sup>2</sup> This is opposed to including controls for income and health and thus identifying a

## Methodology

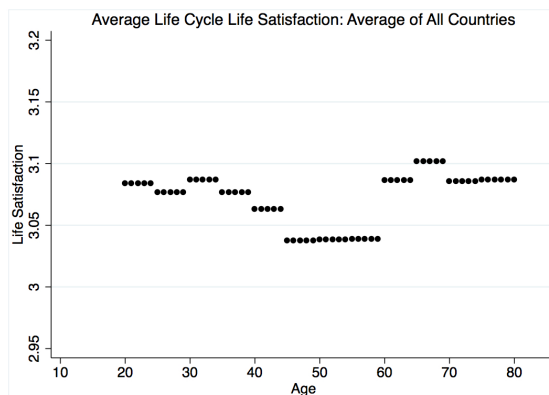
To compare life cycle life satisfaction patterns between countries and groups, the average experienced life satisfaction from age 20 to 80, controlling for cohort, fixed life circumstances, and survey periods, is plotted for each population of interest. To generate these plots, the following methodology is employed.

First, life satisfaction is regressed on age, cohort, survey, gender, and education dummies. Variables that change systematically throughout the life cycle, such as income and health, are purposefully omitted so the coefficients on the age dummies reflect the average actual experienced life satisfaction across ages<sup>2</sup>. To address the identification issue of including age, period, and cohort as explanatory variables, age is grouped into five year dummies, cohorts into 10 year dummies, and surveys are controlled for individually.

Second, the parameter estimates and the average values of the explanatory variables are used to 'predict' average life satisfaction of the average population for each five year age group. This process is repeated for each population of interest (see note at end for more details).

## Results

A few common patterns are found across countries in the analysis of average life cycle life satisfaction for the population as a whole, by gender, and by SES group. These common patterns are best summarized by graphs plotting the life cycle pattern of all countries averaged together.



For the population of a nation as a whole, the most common feature shared across countries is a jump in life satisfaction at age 60. This jump is found in 16 of the 17 countries. The second most common feature is the lowest level of life satisfaction occurring in middle ages, between age 40 and age 60. This feature is found in 11 of the 17 countries. Furthermore, of the six nations that do not show the lowest levels of life satisfaction occurring in

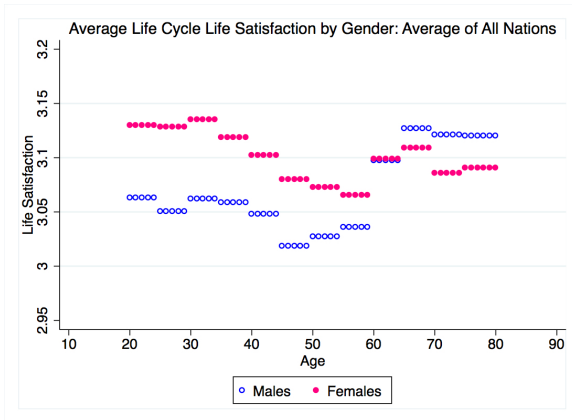
middle ages, the second lowest level of life satisfaction occurs in middle age.

Taken together, these two features describe the most consistent part of the life cycle across countries in terms of life satisfaction; a dip occurring in middle ages followed by an increase around age 60. If the age range 20 to 80 is compared as a whole across countries, however, no consistent pattern emerges. This result should not be surprising, as the life circumstances of people across countries are probably more varied when they are young and trying to find a career and a spouse, or old

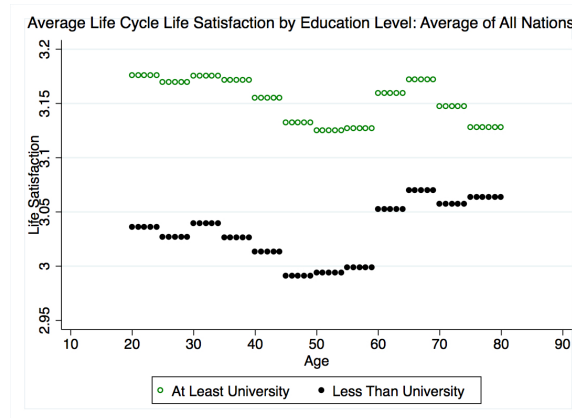
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<sup>2</sup> This is opposed to including controls for income and health and thus identifying a pattern of life cycle life satisfaction of a hypothetical person who has the same income and health throughout their entire life.

and relying on pensions or family for support. In middle age to retirement age, when careers and families are firmly established, is when life circumstances are probably more consistent across countries.



When the genders are divided, in 11 of the 17 countries male happiness improves relative to female happiness as age increases. Furthermore, the relationship is only reversed in one nation, Sweden. In all other nations there is no obvious relationship between the genders. It is also worth noting that another study found that male life satisfaction increased relative to female life satisfaction in the United States.



When the nations are divided into different SES groups (defined by highest level of education attained less than university or highest level of education at least university) the most consistent relationship across nations is that the higher educated portion of the population is more satisfied over the entire life cycle. In 11 of 17 countries the more educated segment of the population is, on average, more satisfied with their life for every five year age group. In the countries where the more

educated group is not strictly better off over the entire life cycle, the better educated group still shows an advantage in life satisfaction for the majority of the life cycle. This result is not surprising because income is consistently found to be one of the strongest predictors of life satisfaction in the cross section.

### Future Research

An investigation into the mechanisms behind the patterns identified in this extended abstract is planned and will be completed by the PAA meeting in May. While the Eurobarometer data I am using cannot completely test for underlying mechanisms, I plan on using external data (public policies, labor market trends, etc) to support my analysis.

## Notes

### General Specification:

$$LS = \alpha + \beta * AD + \delta * female + \gamma * cohortD + \theta * eduD + \xi * surveyD + \epsilon$$

*LS*: Life satisfaction

*AD*: Age dummies, 5 year groups, age 20-24 reference group

*female*: Female dummy, dummy=1 if female

*cohortD*: 10 year cohort dummies, cohort born between 1951 and 1960 reference group

*eduD* : Education dummies. Dummies are secondary, technical, and university+ and represent highest level of degree completed. Reference group is less than secondary school.

*surveyD* : survey dummies. Each survey is assigned a dummy.

### Average happiness at age group i calculation

$$LS_{age-range}^{\hat{}} = \alpha + \hat{\beta} * AD_i + \hat{\delta} * female + \hat{\gamma} * cohortD + \hat{\theta} * eduD + \hat{\xi} * surveyD$$

Where “bar” indicates the average of the explanatory variable for the population being analyzed. The hats over the parameter indicate they are parameter estimates. In the above equation the only variable is  $AD_i$ . A separate calculation will be made for each 5 year age group by inserting the relevant age group dummy into the equation above. For example, to calculate the average life satisfaction for the age group 30-34, the following calculation is made:

$$LS_{age30-34}^{\hat{}} = \alpha + \hat{\beta}_{30-34} * 1 + \hat{\delta} * female + \hat{\gamma} * cohortD + \hat{\theta} * eduD + \hat{\xi} * surveyD$$