

**Happiness, Stress, and Age: How the U-Curve Varies across People and Places**  
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**Abstract**

There is now much evidence for a remarkably consistent relationship between age and happiness—“the U-curve”. In this paper, we present the first analysis that explores why some nations—and people within them—have turning points that are much earlier while others turn much later. Contributing to past studies, we analyzed the relationship *within* forty-six individual countries, as well as how it varied depending on where in the well-being distribution individuals are, and extended the analysis to stress. The U shape relationship between age and happiness held in 44 of the 46 countries, and a reverse U held for stress in almost as many. Our most novel finding is that the *timing* of the turn varies depending on average country-level happiness and on individuals’ position in the well-being distribution. Our findings highlight the consistency of the relationship as well as how its timing varies across people and places.

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## Happiness, Stress, and Age: How the U-Curve Varies across People and Places

“It’s not time to make a change, just relax and take it easy. You’re still young that’s your fault, there’s so much you have to know. Find a girl, settle down, if you want, you can marry. Look at me, I am old but I’m happy.” Lyrics from Cat Stevens, “Father and Son”

### I. Introduction

Academics, governments, and international institutions are increasingly using subjective well-being metrics as tools for analysis and as complimentary gauges of economic and social progress. They provide new tools for informing policy design and assessing policy outcomes. Measures of life satisfaction, happiness, reported mental illness, and/or daily moods and experiences—ranging from contentment to stress and anger—can help us understand a range of behaviors, as well as their welfare benefits or costs, across individuals, countries, and generations.

Indeed, in the past decade, well-being measurement has established much more precision, which has in turn facilitated the incorporation of the metrics into official statistics. Part of this progress has been in identifying the distinct well-being dimensions, and there is increasing consensus on the need to measure hedonic, evaluative, and eudemonic well-being separately. Hedonic well-being metrics assess individuals’ moods and affective states as they experience their daily lives. Evaluative well-being metrics gauge individuals’ assessments of their lives as a whole, including their capacity to choose the kinds of lives that they wish to lead. Eudemonic metrics measure the extent to which individuals’ have purpose or meaning in their lives. The other dimension of progress has been in establishing best practice for surveys. No data is perfect and there are particular challenges associated with data based on self-reports. Yet there is now enough accumulated knowledge to allow scholars to avoid and/or address potential bias related to things such as question ordering, scaling, day of the week and other contextual issues, and cultural differences (Stone and Mackie, 2013).

Numerous studies have found recurrent patterns between happiness and life satisfaction (while the terms are often used inter-changeably, the latter is a better-specified question) and important experiences such as employment, marital status, and/or earnings. These, in turn, lead to differences in investment profiles, productivity, voting incentives, and attitudes toward health (Graham, Eggers, and Sukhtankar, 2004; DeNeve and Oswald, 2012; De Neve et al., 2013).

Among these relationships, the one between age and happiness—often referred to as “the U-curve”—is particularly striking due to its consistency across individuals, countries, and cultures (Blanchflower and Oswald, 2007; Steptoe, Deaton and Stone, 2015; Graham and Pettinato, 2002). Happiness declines with age for about two decades from early adulthood up until roughly the middle-age years, and then turns upward and increases with age. Although the exact shape differs across countries, the bottom of the curve (or, the nadir of happiness) ranges from 40 to 60 plus years old. Blanchflower and Oswald (2016) find that some markers of ill-being, such as reported mental health and the use of anti-depressants, meanwhile, display inverse patterns, and turn down (as opposed to up) at roughly the same age range in the U.S. and Britain.

In this paper we depart from the extant literature and explore the extent to which the general pattern holds in a very large and diverse set of countries around the world, and specifically if the turning point is influenced by the average levels of well-being in particular countries. In an additional departure from previous studies, we explore whether the turning point varies according to where individuals are in the well-being distribution, e.g. how naturally happy or unhappy people are (which is linked to innate character traits), based on quantile regressions within each country. We also explore the extent to which the age curve varies in a similar (inverse) way across an important marker of ill-being – stress – in a large number of countries around the world.

Our most novel finding is that the curve turns earlier, on average, for happier people and people in happier places, and that the trends in experienced stress follow a similar pattern (a reverse U) in almost as many countries. As such, individuals who are higher up in the well-being distribution and people in places with higher levels of average well-being have more life years, e.g. years which are both happy and stress free.

There are many plausible and inter-related explanations. Happiness and health (and associated mortality rates) are jointly dependent. Poor health, poverty, and uncertainty are associated with lower levels of well-being, both across individuals and at the aggregate country level, and feature in most of the countries where people have less happy life years (Graham, 2009; Helliwell, Layard, and Sachs, 2013). Selection bias stemming from happier people moving to happier places could be a factor, but not likely on a significant cross-country scale (Chuluun and Graham, 2015). There is, however, some evidence of cultural differences in well-being—which may be genetically determined—that play out across countries (Proto and Oswald, 2014).

Finally, we explore a country level idiosyncrasy that affects the timing of the U-curve: a major difference between the age curves of the married and unmarried for the U.S. versus Europe. While there is no difference in the shape of the U across these cohorts in Europe in the raw data, the unmarried in the U.S. experience a significantly deeper dip in the middle aged years than do the married. This finding suggests that there are likely other country specific departures from the average trend, which we have not observed, but might help explain some outliers in the cross-country patterns.

We use nationally representative household surveys from the Gallup World Poll (GWP) to explore how this relationship varies across countries, and then quantile regression techniques within countries to explore how the turn might vary across people at different points in the well-being distribution. We also use the Gallup U.S. Healthways poll to explore the mediating role of marriage, as it stands out as a factor in the U.S. turning point more than in other countries of comparable levels of income.

## **II. The Literature**

Studies of the consistency of and the factors behind this U-curve are extensive, and the exploration has gone well-beyond life satisfaction alone. Blanchflower and Oswald wrote the first papers to emphasize the U-shape in age; their 2008 paper used data on 500,000 randomly sampled Americans and West Europeans, and found that psychological well-being is U-shaped through life. Graham and Pettinato (2002) noted in passing that the U-curve held in emerging market economies, although at the time they did not place particular focus on it as a fundamental finding. More recently, Graham (2009), in research based on a wide range of data sets, noted that the U shape in age was remarkably consistent in most countries of the world.

An important note here is that all of these studies controlled for potentially confounding factors such as income, health, employment, and gender. The intuition in this instance is to look at the “pure” effects of aging, controlling for the many other confounding factors that also come with age, such as declining health and leaving the work force.

Indeed, the timing of the U-curve and how consistently it holds is sensitive to the inclusion (or not) of controls—and which ones. A small number of studies explore the effects of aging without any additional controls. Steptoe, Deaton and Stone (2015), in a study based on the Gallup World Poll, find evidence of a U-shape for many but not all countries. In particular, the U-curve does not hold in places where it is particularly difficult to age, due to lack of decent health care, as in sub-Saharan Africa, and/or lack of family or social safety nets, as in some of the former Soviet economies. Stone et al. (2010) look at the U.S. alone, based on Gallup data, and find a clear U shape both with and without controls (as do we in our new findings discussed below, albeit with some nuances based on marital status).

Easterlin (2009) uses GSS data to look at the relationship in the U.S. over time, controlling for race, education, and gender (all things which do not typically vary much over the life cycle), as well as year of birth to control for cohort effects. He also looks across life satisfaction domains. In contrast to other studies, he finds that happiness in general displays a rather flat relationship with age, but that financial satisfaction displays a clear U-shape, while health satisfaction declines monotonically with age. Again, this suggests how sensitive the point of the curve is to the controls that are included.

Wunder et al. (2009) use a semiparametric regression model using penalized splines (i.e. a smoothing technique) to investigate the profile of well-being over the life span. Using longitudinal data from the British Household Panel Survey (BHPS) and the German Socio-Economic Panel Study (SOEP), the analysis shows a three-phase pattern. In the first stage, life satisfaction declines until approximately the fifth life decade. In the second age stage, well-being clearly increases and has a second turning point (maximum) after which well-being decreases in the third age stage.

Blanchflower and Oswald (2016) draw upon data on the use of antidepressants in randomized samples from 27 European countries and show that the probability of taking antidepressants follows an inverted U-shape curve that peaks in people's late 40s. Graham, Zhou and Zhang (2015) use a national-level well-being survey for China to explore the relationship between age and mental health/life satisfaction and physical health (chronic disease). The authors find that the standard determinants of well-being are the same for China as they are for most countries around the world and that unhappiness and reported mental health problems are highest among the cohorts who either have or are positioned to benefit from the transition and related growth—a clear progress paradox. They find the usual U shape in life satisfaction (turning a bit early, at 34 years of age), and an inverse U in reported mental illness, meanwhile, turning in the same age range (33 years).

Cheng et al. (2015) draw on four data sets and only within-person changes in well-being, and find powerful support for a U shape in longitudinal data for Australia, Germany, and the UK. The strong evidence for within person changes in well-being, which do not rely on confounding environmental factors, go a long way to refute the claim that the U is a statistical artifact across large numbers and/or age cohorts. A caveat, though, is that none of the countries in the Cheng study pertain to the category of low levels of average well-being or places where it is difficult to age.

Rather remarkably, Weiss et al. (2012) find a similar U-shape exists among great apes. Raters familiar with the individual apes assessed cheerfulness among 508 great apes (including chimpanzees and orangutans). The U-shaped pattern or “midlife crisis” emerges with or without use of parametric methods. The results imply that human well-being's curved shape is not uniquely human and that, although it may be partly explained by aspects of human life and society, its origins may lie partly in the biology we share with great apes.

The findings are remarkably consistent: there is typically a U-curve related to age and life satisfaction, or cheerfulness, and an inverse U-curve at about the same point for reported mental illness or anti-depressant use and age. Individuals' environments matter, yet there seems to be something more fundamental at play.

Insights from other disciplines help explain these patterns. Psychologist Laura Carstensen et al. (2011) finds that young people have many more emotional swings than do older ones (which is no surprise to any parent of teenage children), and that older people need less stimulation to produce positive emotions. Psychologist Dilip Jeste uses magnetic brain scans to explore the relationship between wisdom and age. He finds that older people display more of the traits of “the wise” than do younger ones. These include compassion, empathy, social reasoning, tolerance, equanimity, and tolerance with uncertainty. His research was triggered by his earlier findings that schizophrenics do better as they age (cited in Rauch, 2014). Tari Sharot (2011) identifies an “optimism bias” which is common to most humans, and posits that this bias may be a trait that is necessary for human survival and ability to thrive. That bias seems to be lowest and/or more dominated by realism in the middle age years.

Several other factors are plausibly at play: the double burdens of children and aging parents in the middle age years; aspirations aligning with reality by the mid-life years, and greater appreciation for what remains of life in the elder years. Hannes Schwandt (forthcoming) uses German socio-economic panel data and finds that younger people, who have higher expectations in general, over-estimate their future life satisfaction, predicting that it will be higher than their current levels. Yet that trend flips at about age fifty, with older respondents more likely to report that their current life satisfaction is higher than their expected life satisfaction will be.

Older people are likely more backward looking (and accurate) as they assess their lives, while younger ones have much more of their lives ahead of them and by definition have to predict rather than know their futures. Ootegem and Verhofstadt (2015) use panel data for Belgium to compare how the old and the young weigh life satisfaction versus capabilities as they assess their lives more generally. They use a standard life satisfaction question, and then assess capabilities with the question: “how do you consider your possibilities/opportunities in life in general” (essentially prospects of upward mobility). Capabilities (or opportunities) are more important to the overall life assessments of the young, while life satisfaction features more prominently in the assessments of the elderly.

Finally, there is likely some selection bias driving the U curve. Happiness and health are jointly dependent and happy people also live longer (at least in part because of their health but also for other unobservable reasons), and thus there are less respondents with lower life satisfaction and higher levels of stress and other markers of ill-being in the older age pool (Diener and Chan, 2011; Steptoe et al, 2015).

Along these lines, Steptoe, Deaton, and Stone (2015), based on over time data for the U.K, find that higher levels of eudemonic well-being are associated with lower mortality rates. (As is noted in the introduction, eudemonic well-being encompasses the extent to which respondents perceive to have purpose or meaning in life.) Similarly, Graham and Nikolova (2014), based on data for Europe and the U.S., based on propensity matching scores, find that, all else held equal, those workers who stayed in the labor force past the retirement age had higher levels of life and health satisfaction, and less stress and anger than their counterparts who retired. These studies, while not focused on the U curve or its explanation, suggest some of the channels behind what makes for longer and happier life years.

In sum, the literature above highlights the consistency of the U shaped relationship between age and happiness, with an important moderating effect of health, and with some sensitivity to the extent to which controls are including for other intervening factors. It also suggests that while environments matter, there are also biological and psychological factors at play. Our findings contribute to the literature by exploring those interactions across a large number of people and countries, and extending them across well-being dimensions.

### III. Findings

#### *Age and Life Satisfaction*

We use data from the Gallup World Poll (GWP) for the years 2005- 2014, with observations per country pooled over the years, with an average of 9000 observations per country (we excluded countries with less than 5000 observations from the analysis).

For our dependent variable, we rely on the best possible life (BPL) Cantril ladder question, which asks respondents to place themselves on an 11-step ladder in which their lives compare to the best possible life they can imagine. The actual question is: “Please imagine a ladder, with steps numbered from 0 at the bottom to 10 at the top. The top represents the best possible life for you and the bottom of the ladder represents the worst possible life for you. On which step of the ladder would you say you personally feel you stand at this time?” In addition, we control for age, marital status, gender, employment, education and household income in international dollars. Table 1 provides the summary statistics for all variables used for the 46 countries under analysis.

It is important to note that because we have cross-section rather than panel data, we cannot control for cohort effects other than via year dummies, which we include. In addition, in our robustness check based on the World Values survey data (below) we use data covering a much longer time period and more cohorts (although less total individuals).

Given that our dependent variable has more than five categories, we use increasingly common practice in the literature and rely on a simple OLS regression model (rather than ordered logit, which makes it more difficult to compare the coefficients) to estimate our results<sup>2</sup>. Table 2 shows our findings. For the 46 countries under analysis (for each of which we create country dummies), we get a quadratic function—e.g. a negative on the first age coefficient and a positive on age squared—for 44 countries (95.7 percent)<sup>3</sup>. Although the exact shape differs across countries, the bottom of the curve (or, the nadir of happiness) ranges from 40 to 60 plus years old. Figure 1 shows the turning points for all the countries under analysis, where darker colors correspond to higher turning points.

In order to make results more intuitively meaningful and to verify that estimates for each country are in the shape of a U-curve (as opposed to a non-monotonically decreasing function), we calculate the marginal effects at representative values by fixing covariate “age” to different specified values (namely, ages 15 through 95 in increments of 5 years). For that, we use Stata’s *margins* post-estimation command, which computes the first derivative of the response (i.e. slope) with respect to age while producing

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<sup>2</sup> Estimates for ordered logit models do not modify our main findings; for a discussion of the use of OLS regressions to analyze ordinal well-being variables, see Ferrer-i-Carbonel and Van Praag (2007).

<sup>3</sup> The two countries where the U-curve does not hold are Mexico and South Africa.

standard errors and confidence intervals based on the delta-method. For all the different age groups of each individual country, we obtained convex-shaped functions at a significance level of one percent.

Figure 2 plots the relation between a country's turning points and its ranking on average levels of happiness as measured by the World Happiness Report (2015). At first sight, we find that curves turn earlier in places with higher levels of happiness. This means that in those places, people have more happy life years on average. While the countries with higher levels of happiness tend to have higher levels of GDP per capita, meanwhile, that is not always the case. Many countries in Latin America, for example, score higher than their income levels would predict, while many countries in Eastern Europe and the former Soviet Union score lower than their income levels would predict.

The second question that we explored is whether the turning point also varies depending on where in the well-being distribution people are. In other words, it is possible that the turn varies depending on how naturally happy or unhappy people are, reflecting their innate character traits. In an earlier exploration, based on Gallup data from around the world for 2005-2014, one of us (Graham, in collaboration with Nikolova, 2015) used quantile regressions to explore how different variables of interest varied according to which life satisfaction quantile respondents were in. While standard regressions describe the conditional mean, quantile regressions allow us to explore the entire conditional distribution by analyzing the effects of the covariates at different points of the well-being distribution.

In this manner, we move away from what is termed the “mean focus fallacy”, which effectively posits that everyone is affected in the same way by changes in age and thus distorting or failing to capture important differences across the well-being distribution. Rather than splitting the sample into segments based on values of the dependent variable (and thus losing statistical validity), quantile regressions weigh data points depending on whether they are above or below the line of best fit.

We found that the age at which the U-curve begins ascending for those in the happiest quantile of the well-being distribution was much younger—47—than for those in less happy quantiles: 58 for the middle quantile and 61 for the least happy quantile. Yet the focus of that paper was not age, and the regressions included a number of potentially confounding variables. We expanded on that approach here, with a more explicit focus on age.

We used quantile regressions to analyze how turning points vary at different points of the well-being distribution, but in this case within each country, as opposed to the world sample as a whole. We included only the controls that we used for our base-line regressions for the individual countries. As in the above paper, we followed the method described by Binder and Coad (2011) (based on Koenker and Bassett, 1978) with bootstrapped standard error and 100 replications. Table 3 reports detailed results for four quantiles: 0.25, 0.50 (median), 0.75 and 0.90, for each country. On average, across the entire sample, the

least happy quantile turned at 56; the median (.50) turned at 54; the happier (.75) turned at 51 and the happiest (.90) at 48.

We find some cases like Czech Republic, which not only ranks low in terms of overall happiness—2<sup>nd</sup> lowest among the countries under analysis—but where even the happiest individuals have late turning points (68.72). As a reference point, that turning point is similar to the *least* happy individuals in Peru. The case of Denmark provides the opposite example: Danes consistently rank among the happiest at the country level, and have early turning points (44.43) for those individuals in the least happy quantile.

There are a few studies that show differences in the outcomes of people with higher or lower base-line levels of well-being (Graham, Eggers, and Sukhtankar, 2004; DeNeve et al., 2013; Diener and Chang, 2011; and Binder and Coad, 2011). Here we hope to contribute to that base of knowledge by showing that those with higher levels of well-being not only live longer and have better labor market outcomes, but have more happiness over their longer life courses.

It is possible that our findings are biased due to the nature of our data set (not very likely, particularly given the large number of observations), or, more likely, the timing of the survey, which runs from 2005-2009. As a robustness test, we used our same equations for age and life satisfaction using data from the World Values survey, which covers fewer countries, but for a longer time. This was a means to test the role of cohort effects in driving our findings. We were particularly interested in the extent to which our outlier cases with very late turning points, such as Russia and Venezuela—which also happen to be countries with more tumultuous histories in the past decades—displayed similar patterns when a longer period of time was used.

For robustness, and in order to analyze to what extent our result depend on the chosen dataset, we replicate our analysis with data from World Value Survey (WVS). The survey, which started in 1981, is national sample surveys in over 90 countries, using a common questionnaire with variables on beliefs, values, economic development, democratization, religion, gender equality, social capital, and subjective well-being. Data is available at country level, wave level and longitudinal level.

For our dependent variable, we rely on the life satisfaction question in WVS, which asks respondents to say how satisfied they are with their life as a whole and is measured on a scale from 1 to 10. In addition, we control for age, marital status, gender, employment and education. Among the 46 countries under study, we replicate our analysis for the 39 countries where data is available in the WVS.<sup>4</sup> Table 4 shows our findings.

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<sup>4</sup> Data was not found for Austria, Belgium, Denmark, Greece, Ireland, Kosovo and Portugal.

For all the countries with available data, we get a quadratic function—e.g. a negative on the first age coefficient and a positive on age squared—for 34 countries (87.2 percent<sup>5</sup>). Although the exact turning point differs across datasets, the bottom of the curve (or, the nadir of happiness) ranges from 41.9 to 70 plus years old. The countries where there are large divergences between the turning points in the two surveys are Peru, Russia, and Venezuela, all of which have unusually late turning points in the Gallup data and relatively late but closer to average range in the WVS data. There are a number of plausible explanations for this. We posit that timing differences between the two surveys and, in particular, the periods of turbulence that are dominant for these countries in the years of the Gallup Poll are an important part of the explanation.

### *Age and Stress*

We extend our approach to explore the relationship between stress and age. Stress, like all negative and positive experiences in the Gallup World Poll, is measured by a simple yes or no binary variable. The question phrasing is: “did you experience the following feelings during a lot of the day yesterday? How about stress?” Table 5 shows our findings. Our results suggest that stress has a reverse U-pattern around the world, increasing up until a certain point and decreasing thereafter, with lower overall levels of stress as we age. For the 46 countries under study, the stress curve holds for 34 countries (or 73.9 percent<sup>6</sup>). Rather remarkably, and mirroring our findings on life satisfaction, the higher in age the turning point in the stress curve, the lower the ranking of happiness (Figure 3). In the same way that respondents in happier places have more happy life years, they also seem to have less stressful ones. Given that stress is a clear marker of ill-being, the findings suggest that there are vicious—and virtuous—age and well-being circles across people and across countries.

Similarly, we calculate the derivatives (slopes) of stress with respect age (using same age ranges as before). Figures 4-49 plot the happiness U-curves and stress inverted-U-curves whenever statistically significant for each individual country along with their respective turning points.

### *Country Level Idiosyncrasies? An Example Based on Marriage in the U.S. and Europe*

There are likely country level specific trends that affect the aging process - and the U curve and its timing - which we are not observing in the cross-country comparisons. At the same time, as noted above, we find some outliers in which the age curve turns surprisingly early or late, for which we do not have a good explanation. While we cannot fully explain those outliers, we find some surprising differences between

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<sup>5</sup> The five countries where the U-curve does not hold are Brazil, Chile, Colombia, India and Montenegro.

<sup>6</sup> The twelve countries where the stress curve does not hold are Austria, Denmark, Finland, France, Germany, Italy, Kosovo, Netherlands, Poland, Russia, Slovenia and Sweden.

the well-being of married and unmarried cohorts in the U.S. versus Europe which are suggestive of potential explanations.

We looked at differences across married and unmarried cohorts in the simple relationship between age and life satisfaction (e.g. without controls) for the U.S. and Europe. We used the Gallup Healthways data for the U.S. and the Gallup World Poll for Europe. The point of departure for our analysis is an initial comparison of married and unmarried cohorts in Europe by Danny Blanchflower (2016), based on the Eurobarometer.<sup>7</sup>

Like Blanchflower, we find that the U curve holds for all the different cohorts—including both married and single cohorts—for Europe. In contrast, we find strong differences across married and unmarried cohorts in the U.S. The raw data, which is a simple cross tabulation of life satisfaction and age for the whole sample, and then for married and unmarried cohorts separately, demonstrates a major difference in levels of happiness across the cohorts, with those of the married significantly higher than those of the unmarried. In addition, the unmarried experience a much steeper dip than do the married, beginning in the late twenties and then closing the gap with the married in the late fifties. The married, meanwhile, have a slight upward bump in the U curve in the late-twenties to the mid-forties and then a drop again at that point.<sup>8</sup> [Figure 50a]

The raw numbers show that these markers are precisely when the numbers of married versus unmarried are increasing (the mid-twenties through the 30's), thus coinciding with the upward bump for the married and the steep drop for those who remain single. That gap narrows, meanwhile, when the numbers of single or divorced begin to approximate those of the married again (throughout the fifties). This may be because marriage rather than co-habitation is much more of a strong norm in the U.S. than in Europe, and thus those who remain single at a time that most of their peers are marrying may experience additional unhappiness. The U-curve remains in the raw data for the sample as a whole, though.<sup>9</sup> [Figure 50a]

We also ran several OLS specifications with the U.S. data. The first had life satisfaction as the dependent variable and only age and age2 as controls. With this simple specification, the unmarried have a clear U curve but the married do not, and the levels of the unmarried remain well below those of the married. When we use the sample as a whole and add controls, however (gender, race, married, and income) we again get a consistent U-curve. [See Figure 50b and Table 6]

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<sup>7</sup> We thank Danny Blanchflower for suggesting this strategy and for sharing his results on Europe with us.

<sup>8</sup> For brevity, we provide the figures for the U.S. only, given that it departs from the norm. As a robustness check, we replicated the exercise based on GSS data for 1972-1998, thus for a different time period and data set, and found again that the U curve was much steeper for the unmarried than the married. The U is less steep in the GSS data due to the bunching of responses on the median of a 3-point scale. Results are available from the authors.

<sup>9</sup> Our findings without controls for the U.S. stand in stark contrast with those of Glenn (2009). He criticizes Blanchflower and Oswald for including any controls at all, and, using GSS data finds no U shape when only controlling for age cohorts. Glenn argues that controlling for married people, who are happier and select into marriage, drives the U, but our results suggest that is not the full story.

We cannot fully explain why there are such large differences in the happiness of the married versus unmarried in the U.S. and not in Europe. In theory, selection bias could be an issue, as happier people are more likely to marry each other.<sup>10</sup> Yet this not the whole story and does not explain the differences between these two contexts, which are otherwise very similar in terms of per capita income, education levels, and other traits. As noted above, we suspect that it is due to the strong marriage norm in the U.S. as opposed to Europe.<sup>11</sup> In addition to that, meanwhile, the norm is stronger for wealthier and more educated cohorts in the U.S., where marriage rates have stayed roughly the same over time, while they have fallen among lower income cohorts (Sawhill, 2014). As such, some of the large levels (rather than trends) differences in the raw data (e.g. without controls) may be due to income and education differences. There is more room for exploration of these results, but we felt that even at this early juncture, they were provocative enough to posit that they can help explain differential trends in the U-curve across countries, particularly for outlier cases.

#### **IV. Discussion**

Our exploration of the U shape in well-being across people and places suggest vicious and virtuous circles. We found remarkable consistency in the U-shaped pattern, both across people and countries and across well-being dimensions (life satisfaction and stress). What is novel in our analysis is our finding that the curve turns earlier, on average, for happier people and for people in happier places, and that those same respondents experience a drop in stress levels earlier in life. As such, those who are naturally cheerful or happy, and those who live in places which have environments which are conducive to higher levels of well-being tend to have not only more years, but better years (at least in terms of well-being). Those respondents in very difficult places to live tend to have very limited upward turns in well-being.

These are two distinct but likely reinforcing phenomena, one at the individual level and one at the aggregate level. Naturally cheerful or happy respondents seem to navigate the aging process—and the stress associated with the middle aged years—more easily than those who are lower in the well-being distribution. And navigating the aging process is likely easier for all respondents who live in happier environments because of the associated factors, such as the better (and more broadly shared) environments, health care, social safety nets, and governance structures that characterize the countries with the highest levels of aggregate happiness. These factors are also associated with GDP per capita but not completely explained by it. At the same time, it may well be that there are more naturally happy people in those same countries, but providing evidence for that is beyond the scope of this particular analysis.

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<sup>10</sup> Indeed, Guven et al. (forthcoming), using panel data for Germany, find that the probability of divorce is highest when there are asymmetries in happiness levels in marriages.

<sup>11</sup> The finding holds for Europe whether or not we include co-habitators as married or not. In the U.S. data, co-habitators are not labeled as a separate category, and constitute a smaller proportion of the total than in Europe.

There are also two-way interactions: higher levels of well-being are associated with lower rates of mortality, while better health is clearly associated with higher levels of well-being. Poor health, poverty, and uncertainty, meanwhile, are features in many of the countries where it is more difficult to live and to grow old. These factors are also associated with lower levels of well-being, both across individuals and at the aggregate country level, around the world. And while selection bias stemming from happier people moving to happier places does not seem plausible on a large scale, there is some evidence of cultural differences in well-being—which may be genetically determined—that play out across countries.

These individual and country level factors, some of which are genetically or culturally determined, and some of which are features of particular environments, seem to make it easier or more difficult to age happily. While there seems to be a human (and beyond?) tendency to get happier with age, all else held equal, it seems to be mediated by individual character traits and the environments that people live in. Typical explanations for the U-curve are aspirations aligning with reality, as well as the wisdom and equanimity that come with age. People who are naturally happy and/or those who live in places with higher levels of well-being in general may navigate the former process more easily. This in turn may make it easier to acquire traits such as wisdom and equanimity. Respondents who live in very difficult places or those who are naturally less happy may find it difficult to find any sort of peaceful equilibrium, either because of their innate character traits or because their environments are stressful and uncertain.

The relationship between happiness and age is remarkably consistent across hundreds of thousands of individuals and may well have roots in the biological process of aging. Yet there are important differences in the timing of the curve across individuals and places, and finding ways to give those with less happy life years more of them is a worthwhile objective. Future research could seek to understand the factors that are common to the places where it is also difficult to age, and suggest policies could make a difference at the margin.

## **V. Compliance with Ethical Standards**

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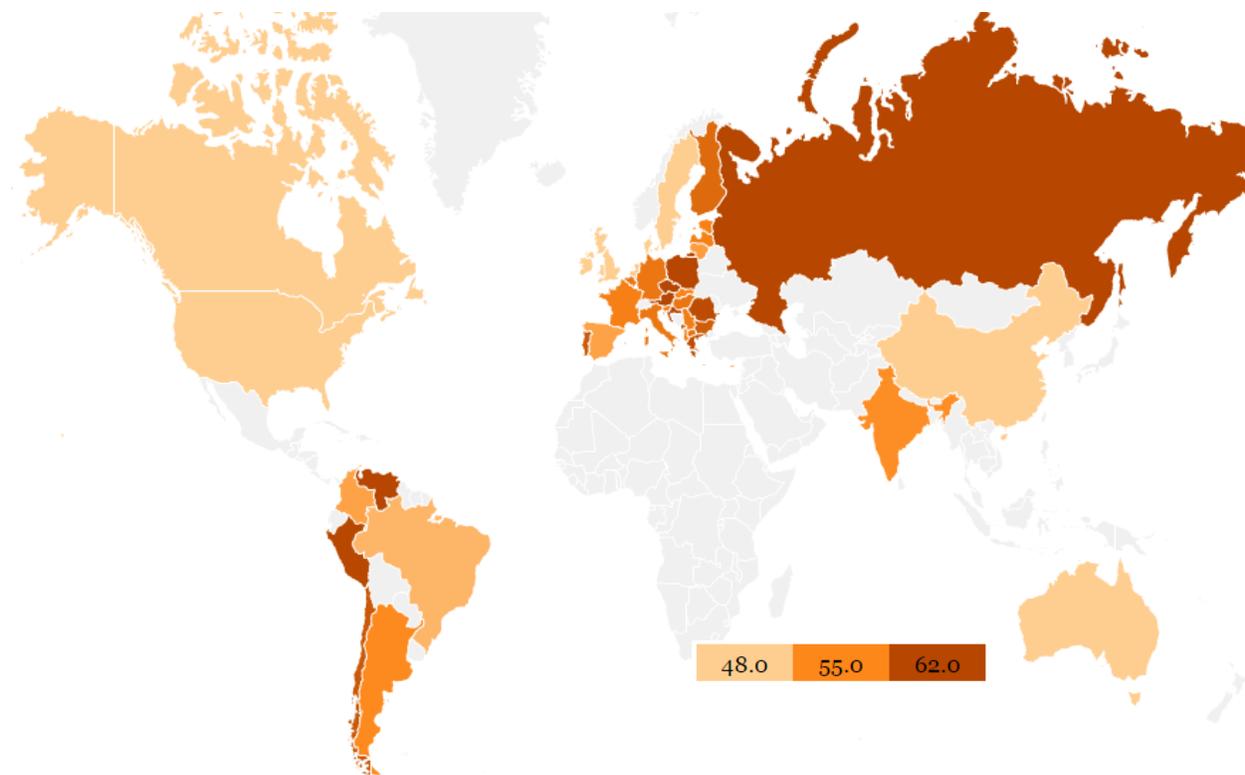
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## VI. Figure Legends

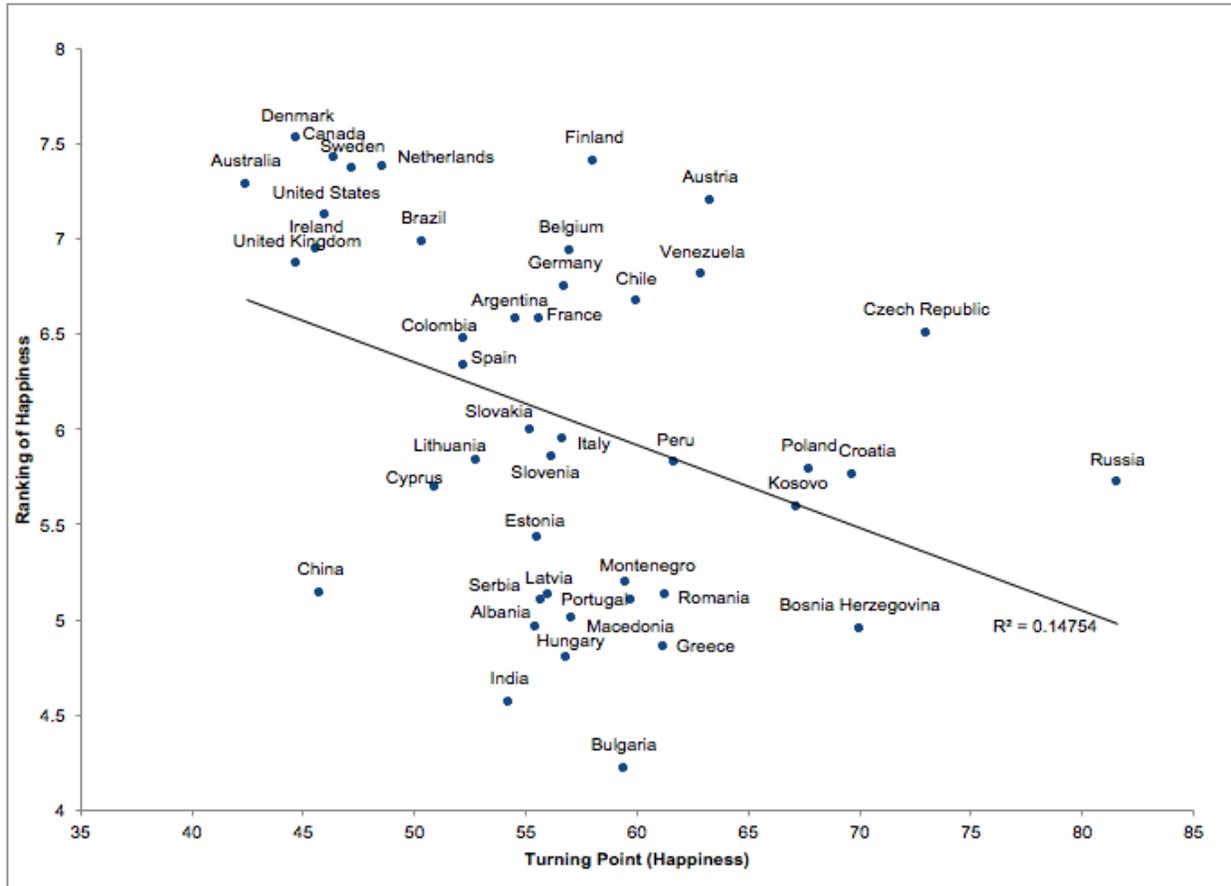
*Figure 1: Turning Points in Happiness U-curve around the globe*



Source: Gallup World Poll.

Figure 1 shows the tuning points derived from our simple OLS regression model, where darker colors correspond to higher turning points. For our dependent variable, we rely on the best possible life (BPL) Cantril ladder question, where the best life is on step 10 and the worst at step zero. We control for marital status, gender, employment, education, and household income in international dollars.

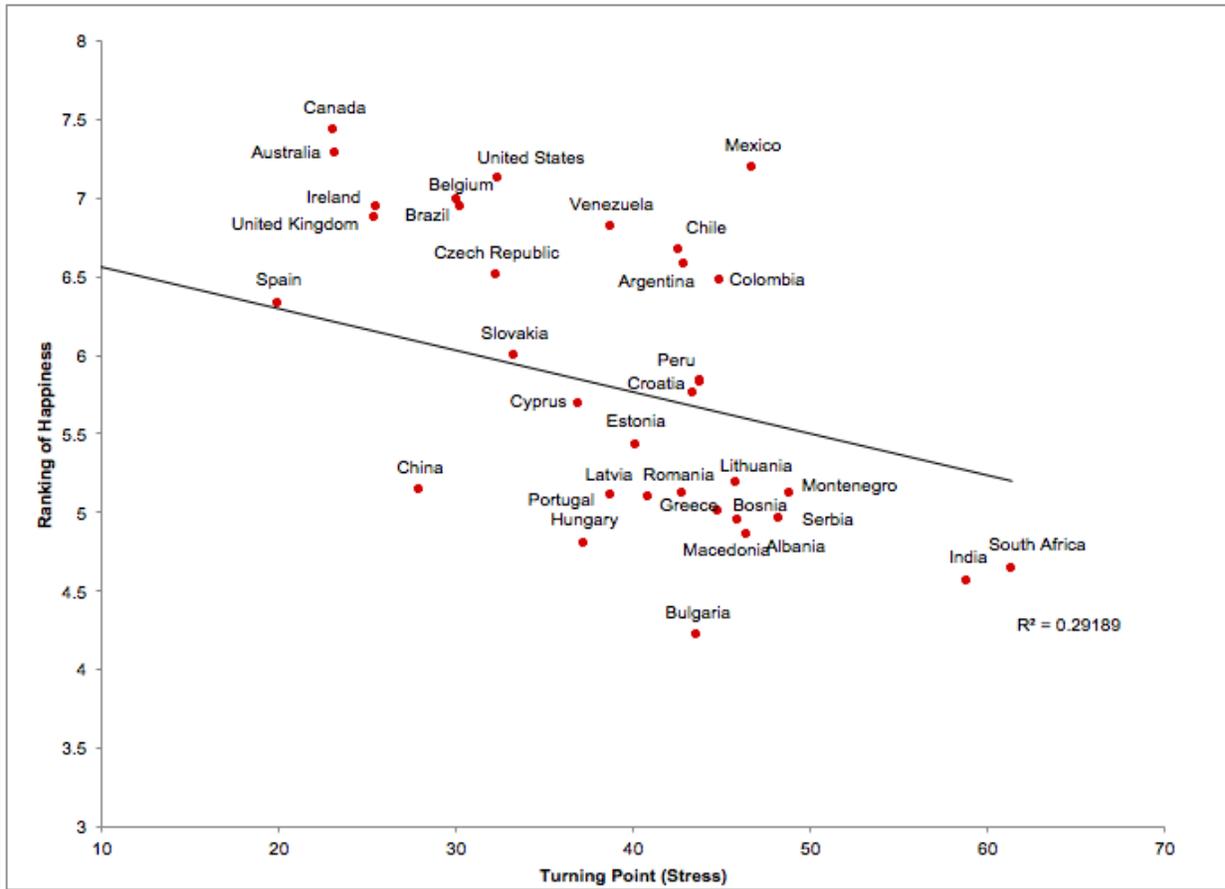
**Figure 2: Turning Point in Life Satisfaction vs. Ranking of Happiness**



Source: Gallup World Poll and World Happiness Report (2015)

Figure 2 plots the relation between a country's turning points in happiness (derived from our simple OLS regression model) and its ranking on average levels of happiness as measured by the World Happiness Report (2015). The vertical axis numbers represent ranking on average levels of happiness and the horizontal axis numbers represent age.

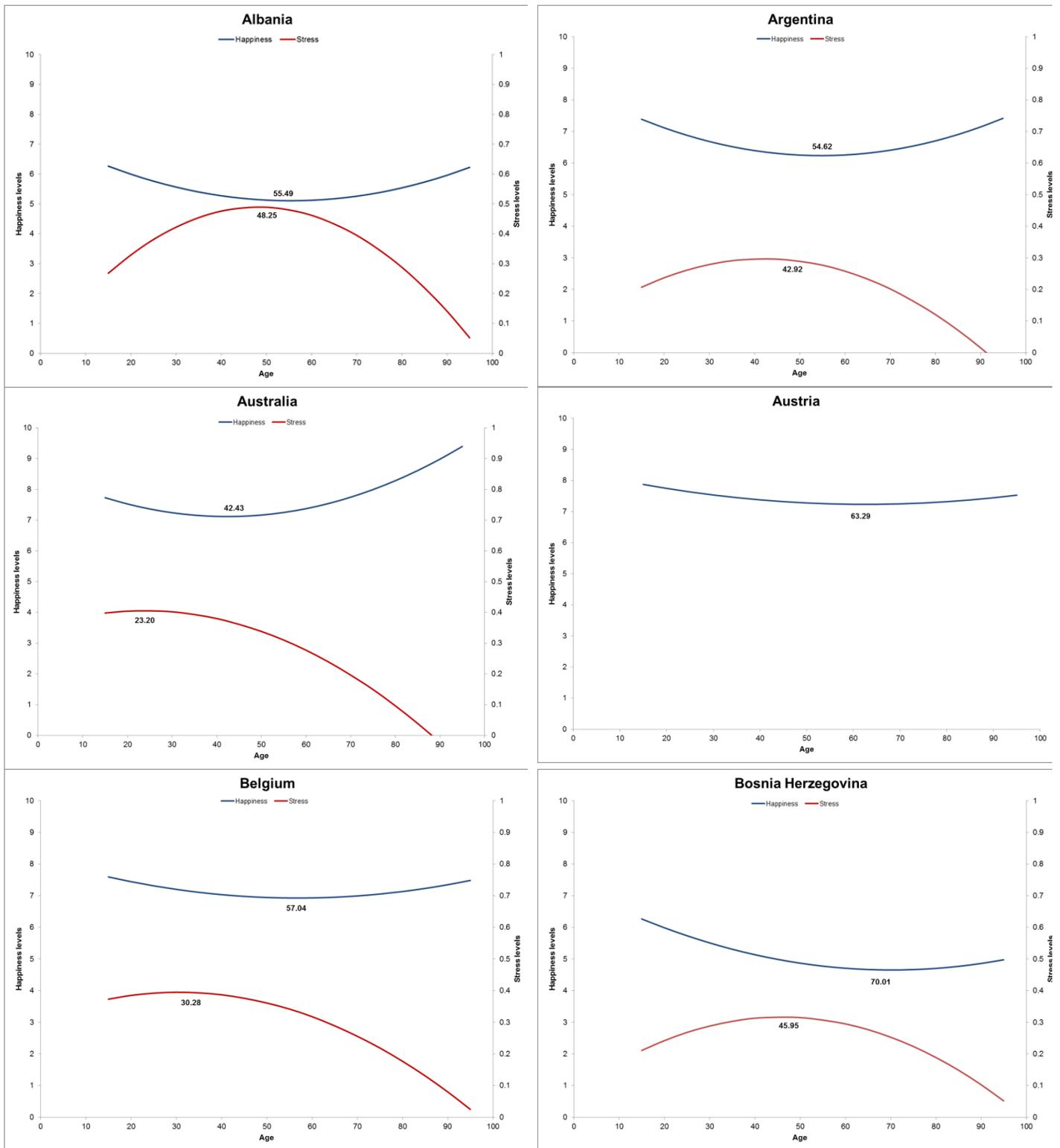
**Figure 3: Turning Point in Stress vs. Ranking of Happiness**

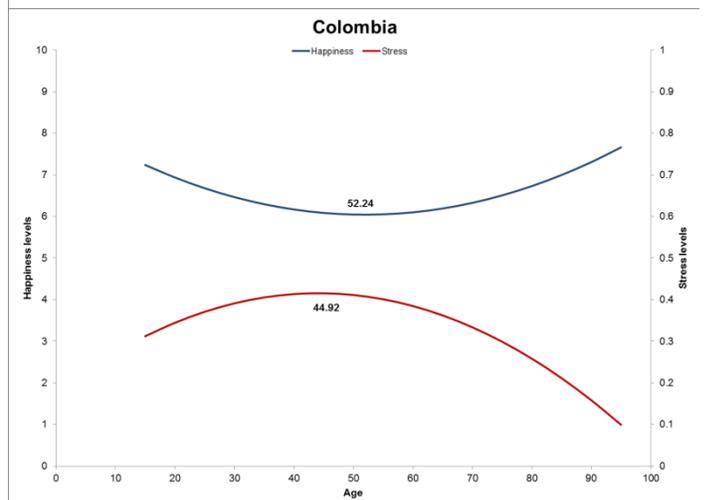
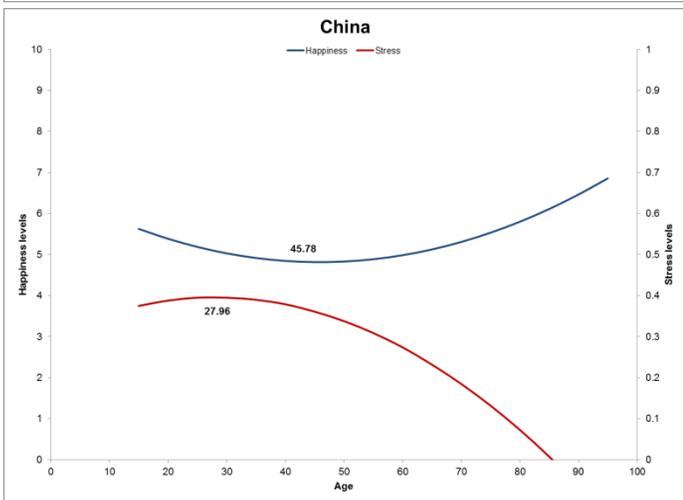
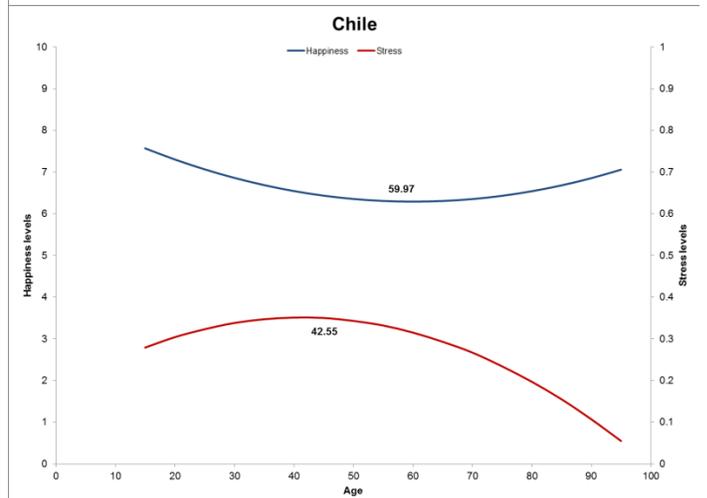
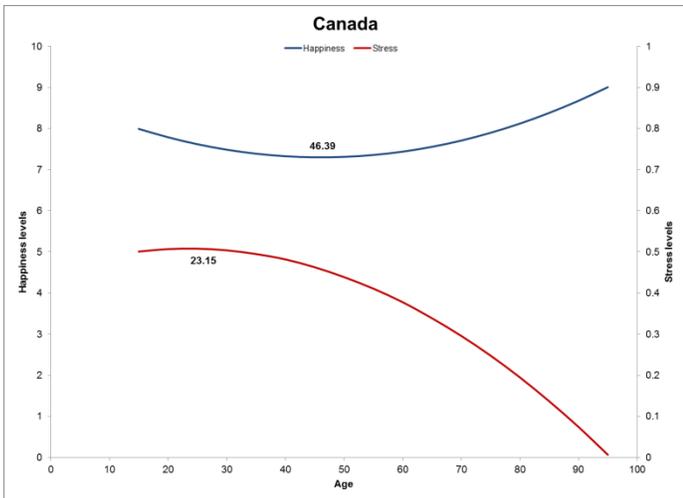
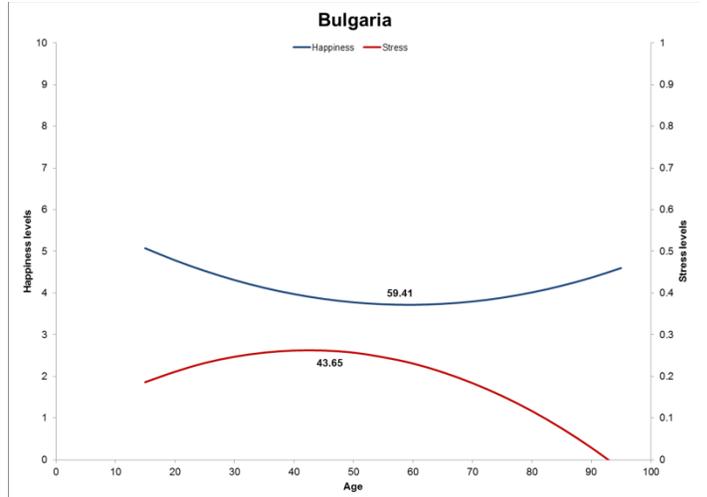
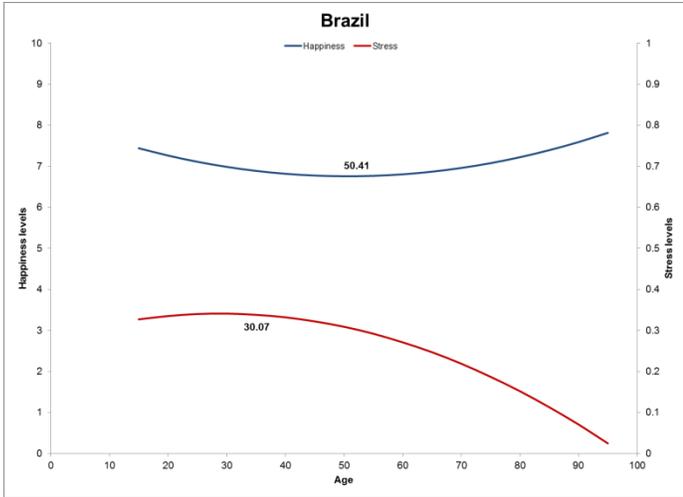


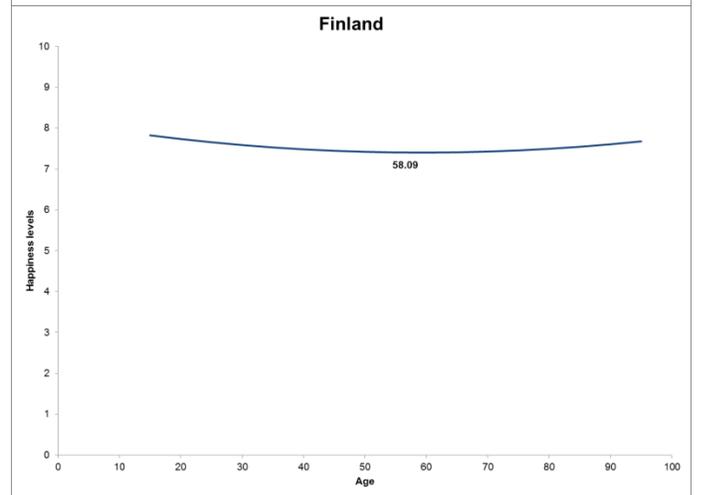
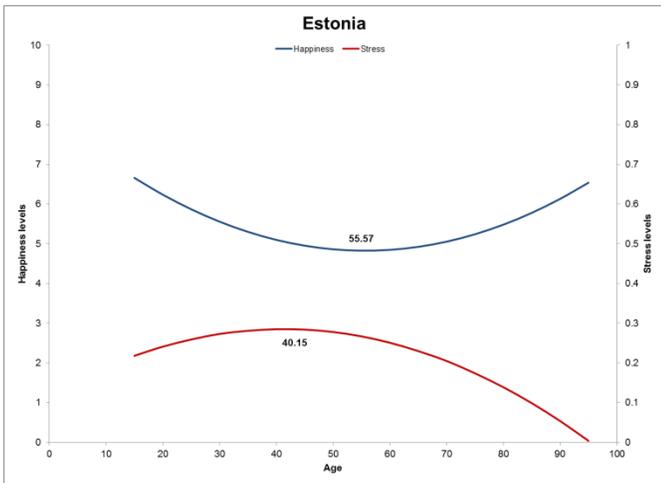
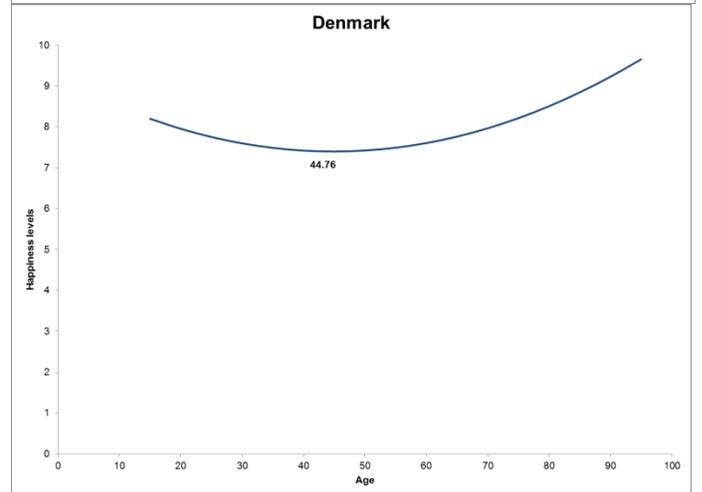
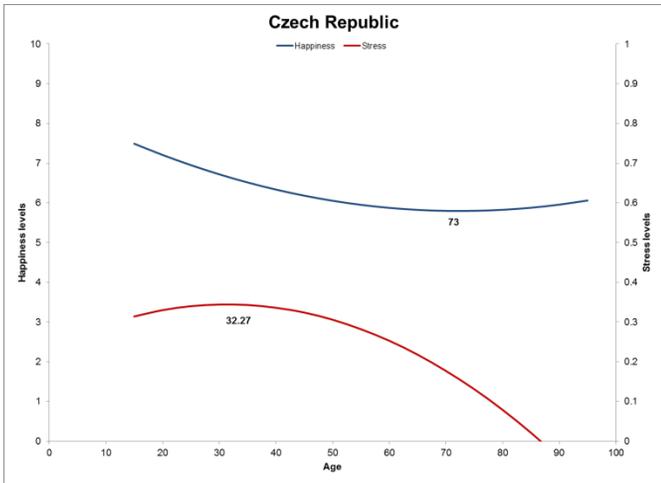
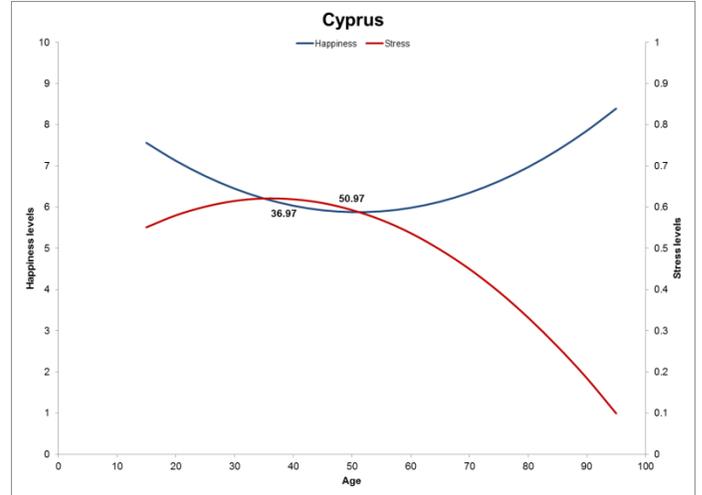
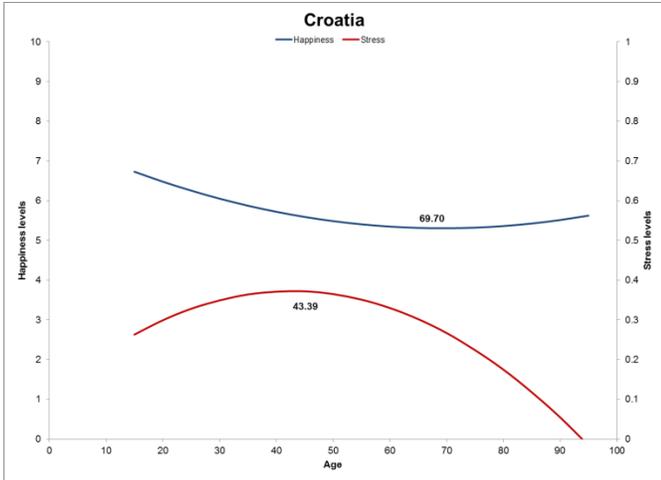
Source: Gallup World Poll and World Happiness Report (2015)

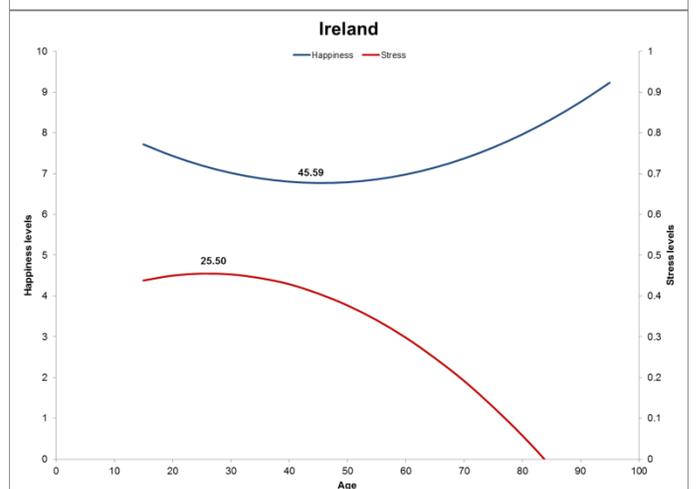
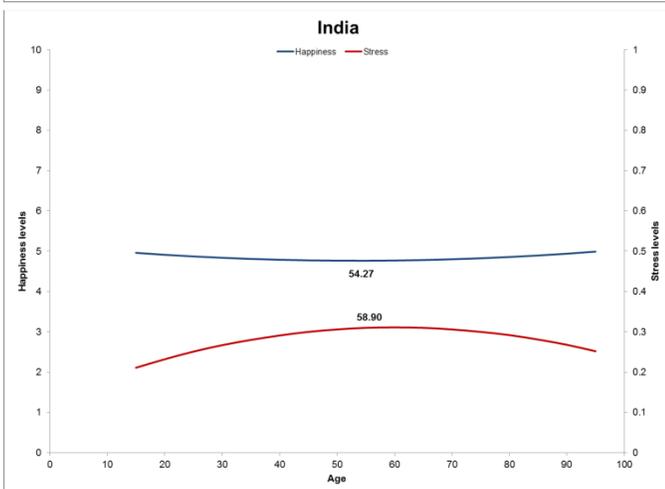
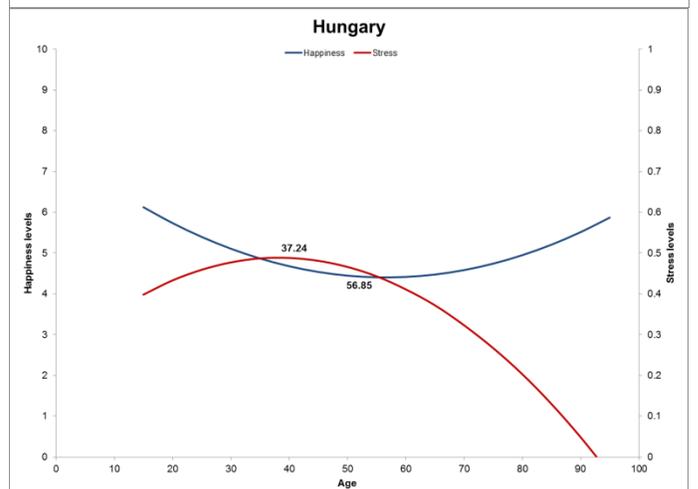
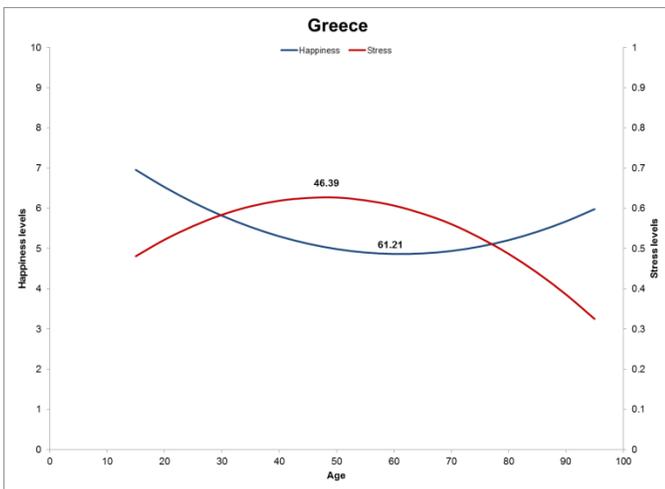
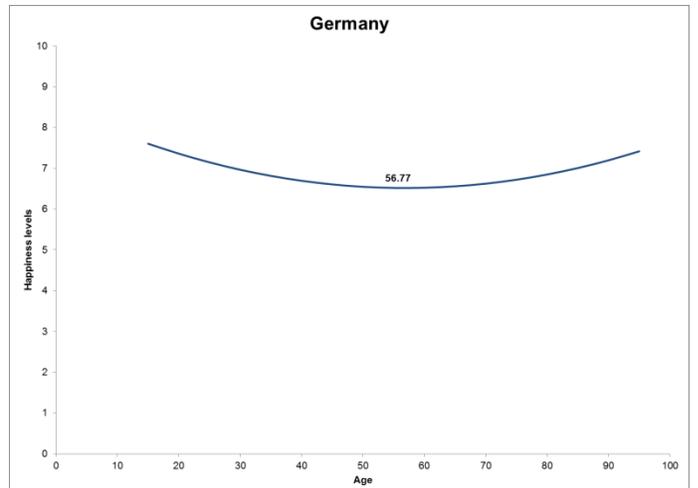
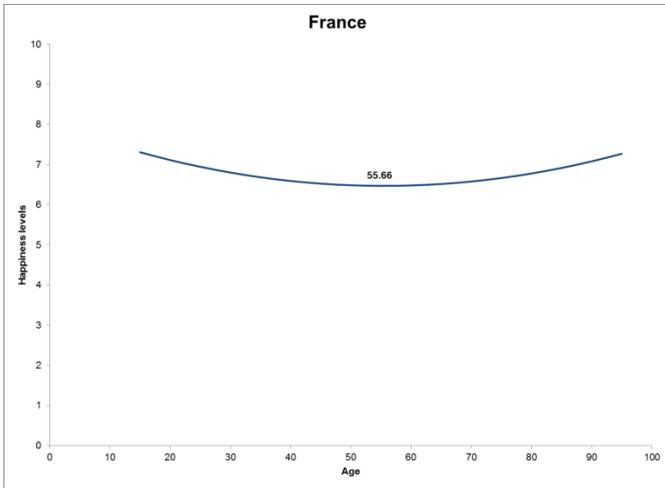
Figure 3 plots the relation between a country's turning points in stress (derived from our simple OLS regression model) and its ranking on average levels of happiness as measured by the World Happiness Report (2015). The vertical axis numbers represent ranking on average levels of happiness and the horizontal axis numbers represent age.

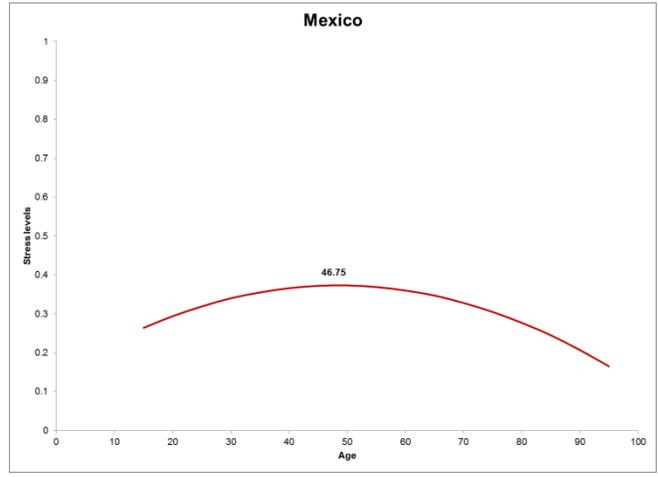
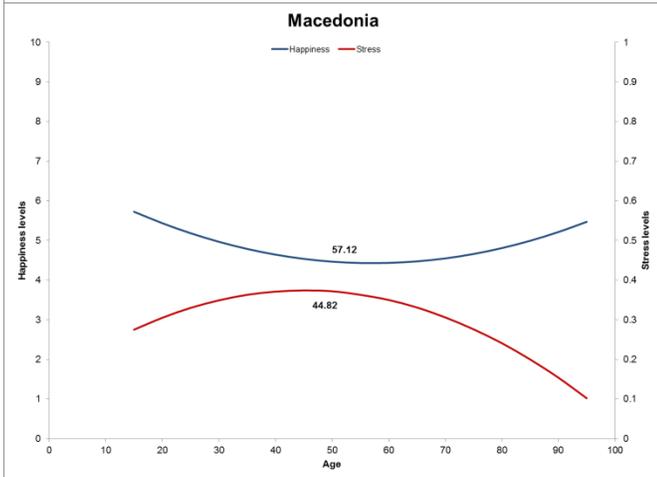
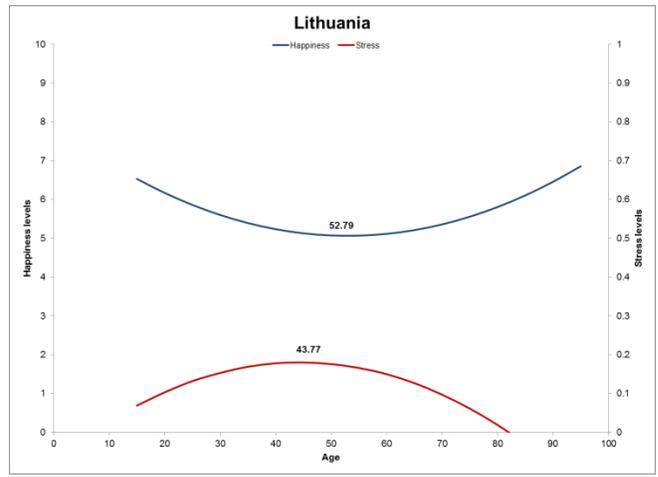
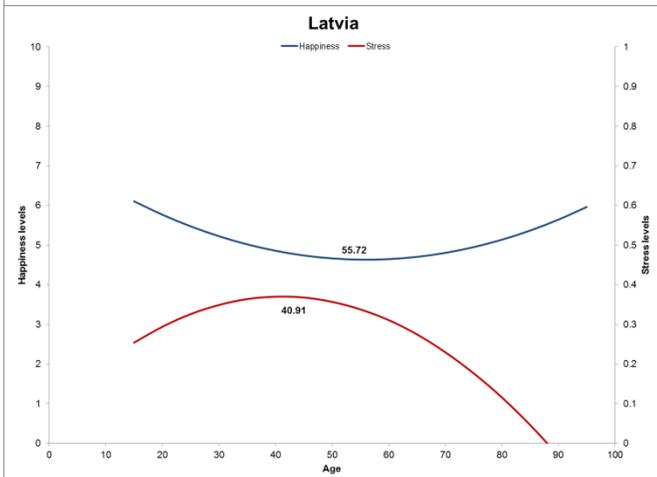
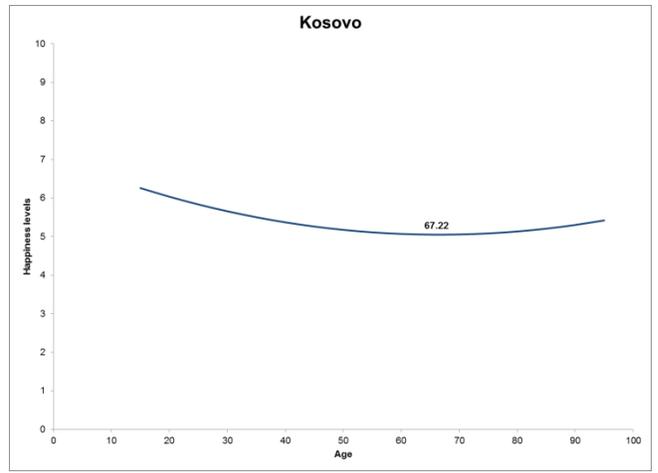
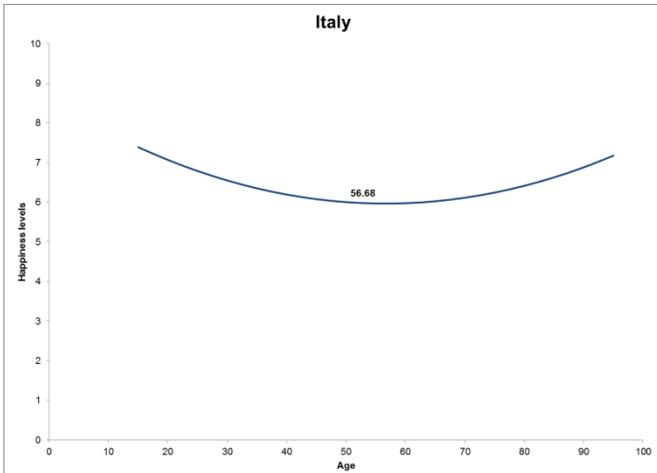
Figures 4- 49: Happiness U-curves and Stress Inverted U-curves

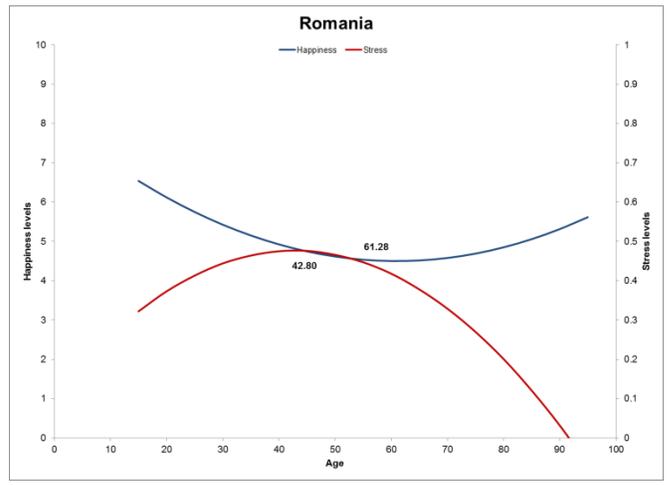
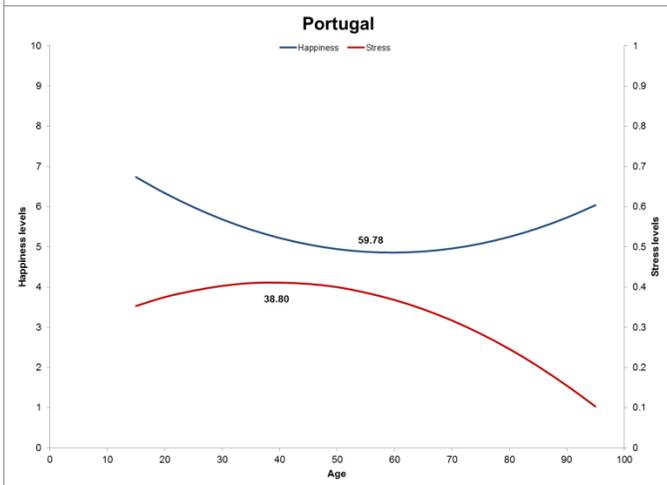
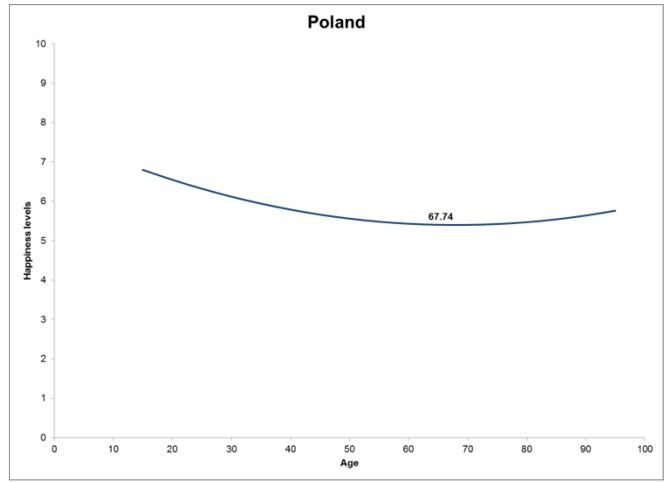
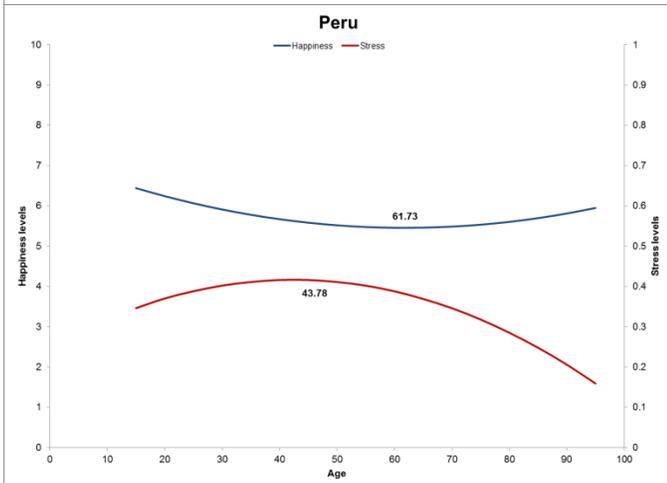
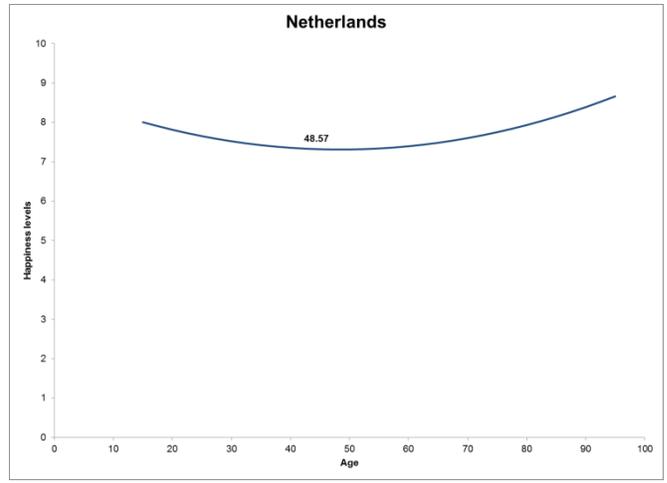
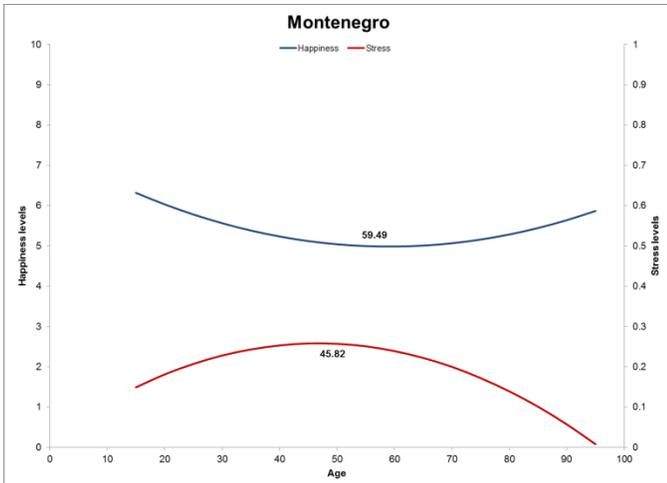


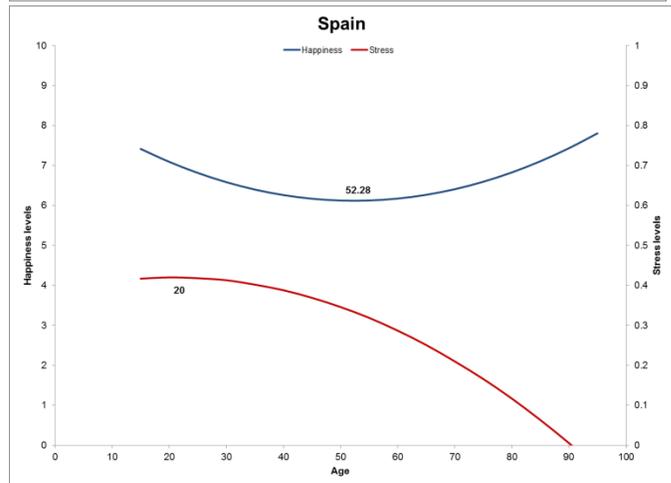
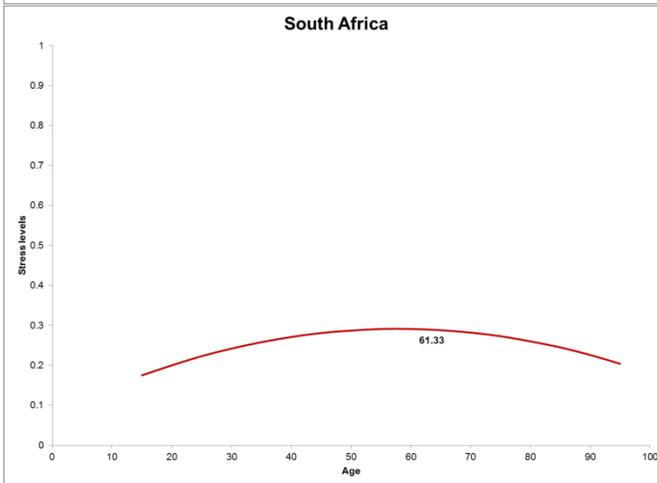
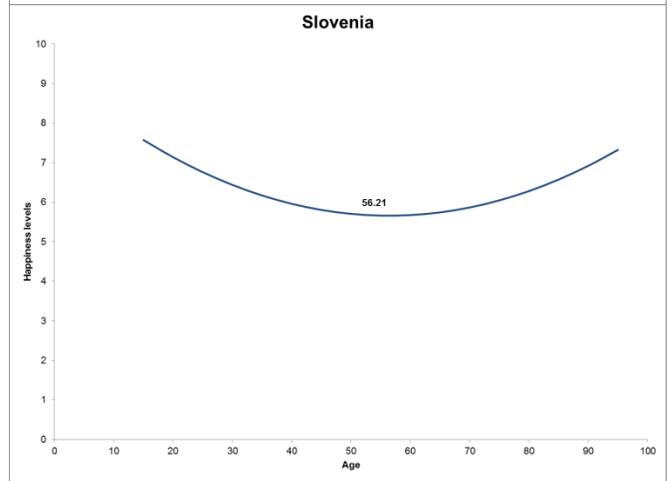
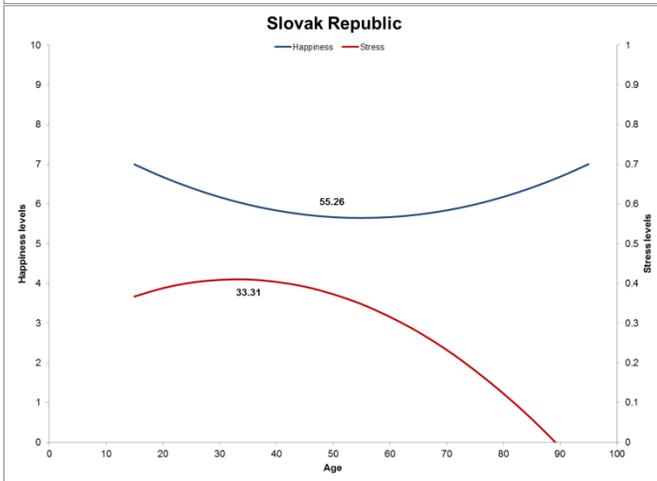
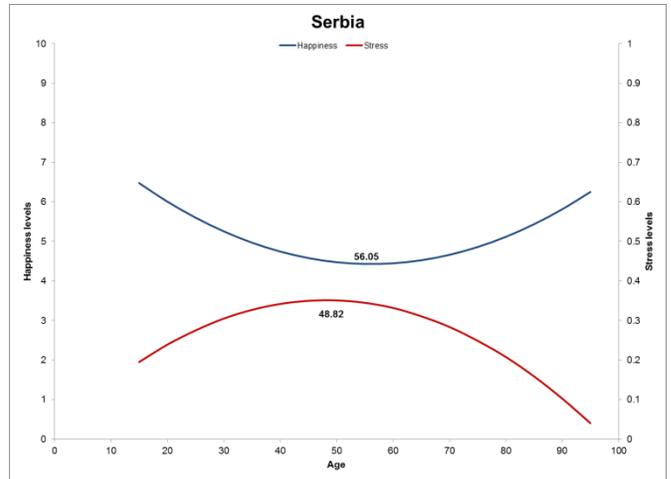
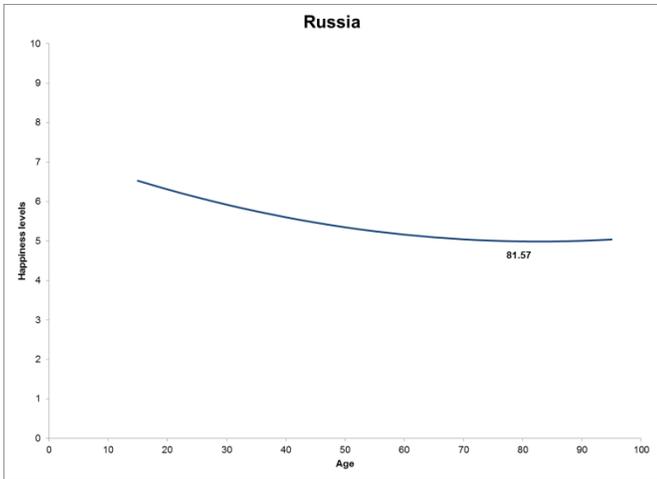


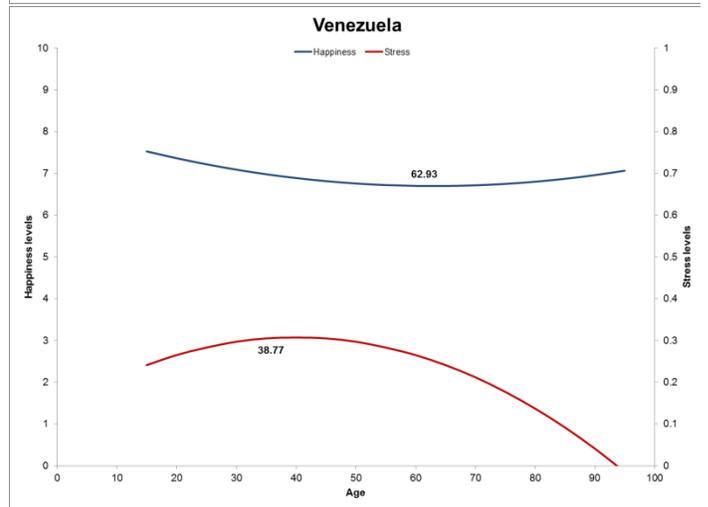
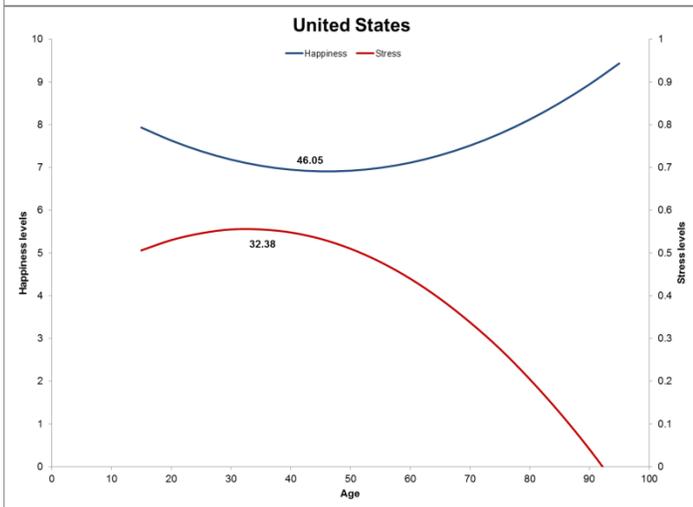
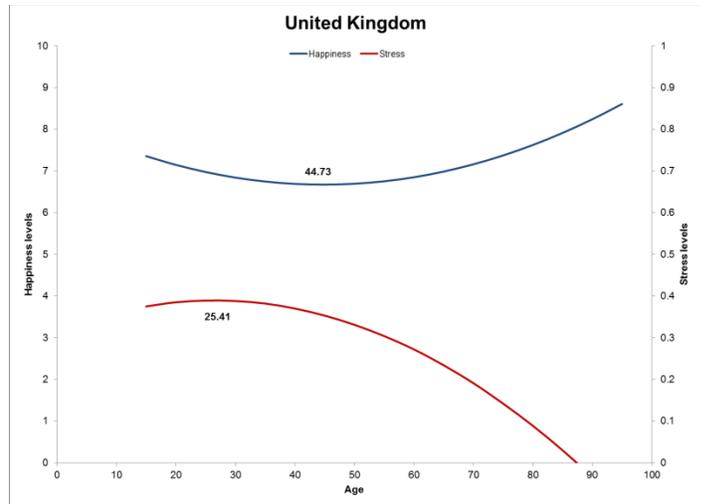
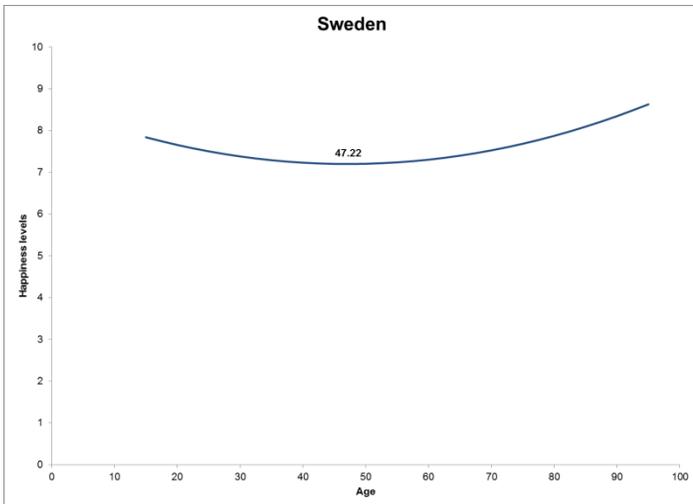








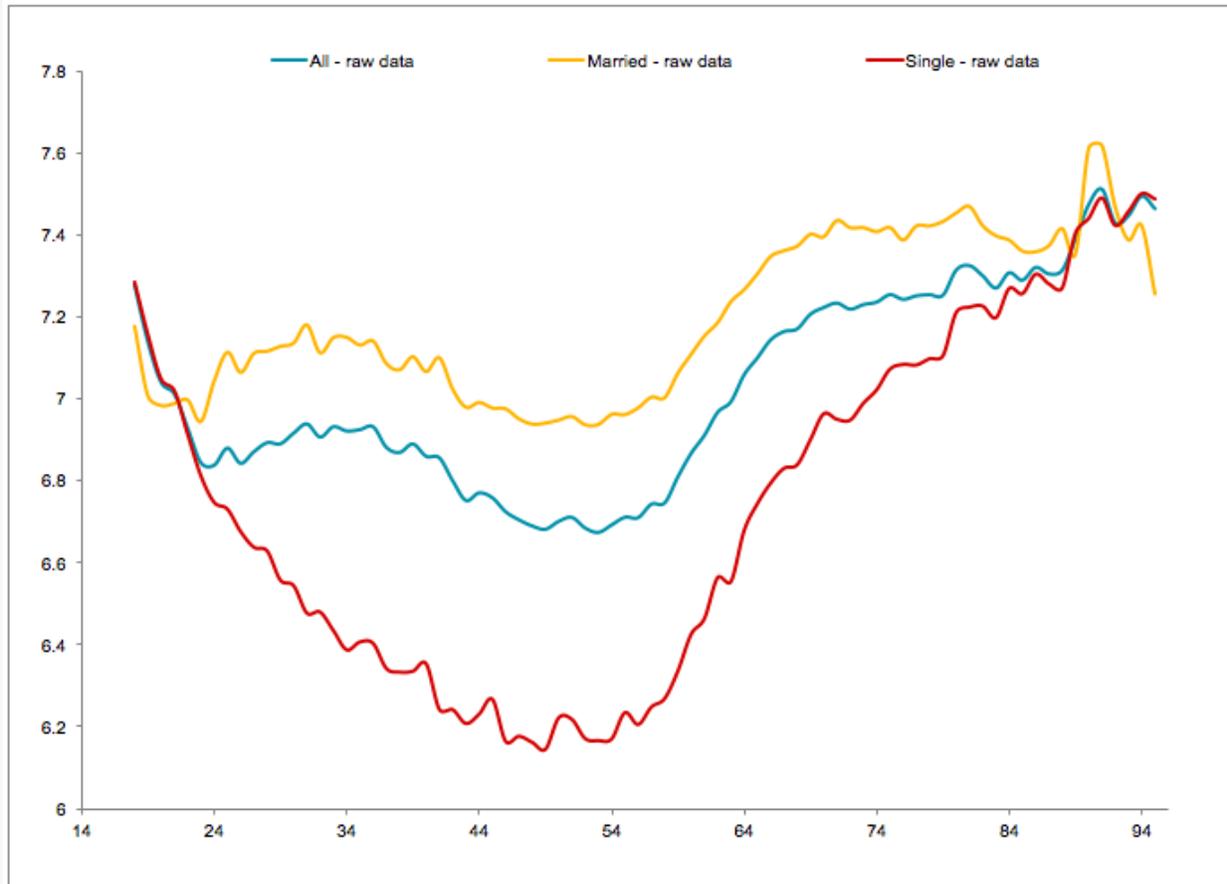




Source: Gallup World Poll

Figures 4-49 plot the happiness U-curves and stress inverted-U-curves (derived from our simple OLS regression model) whenever statistically significant for each individual country along with their respective turning points. The vertical axis numbers represent average happiness levels and the horizontal axis numbers represent age.

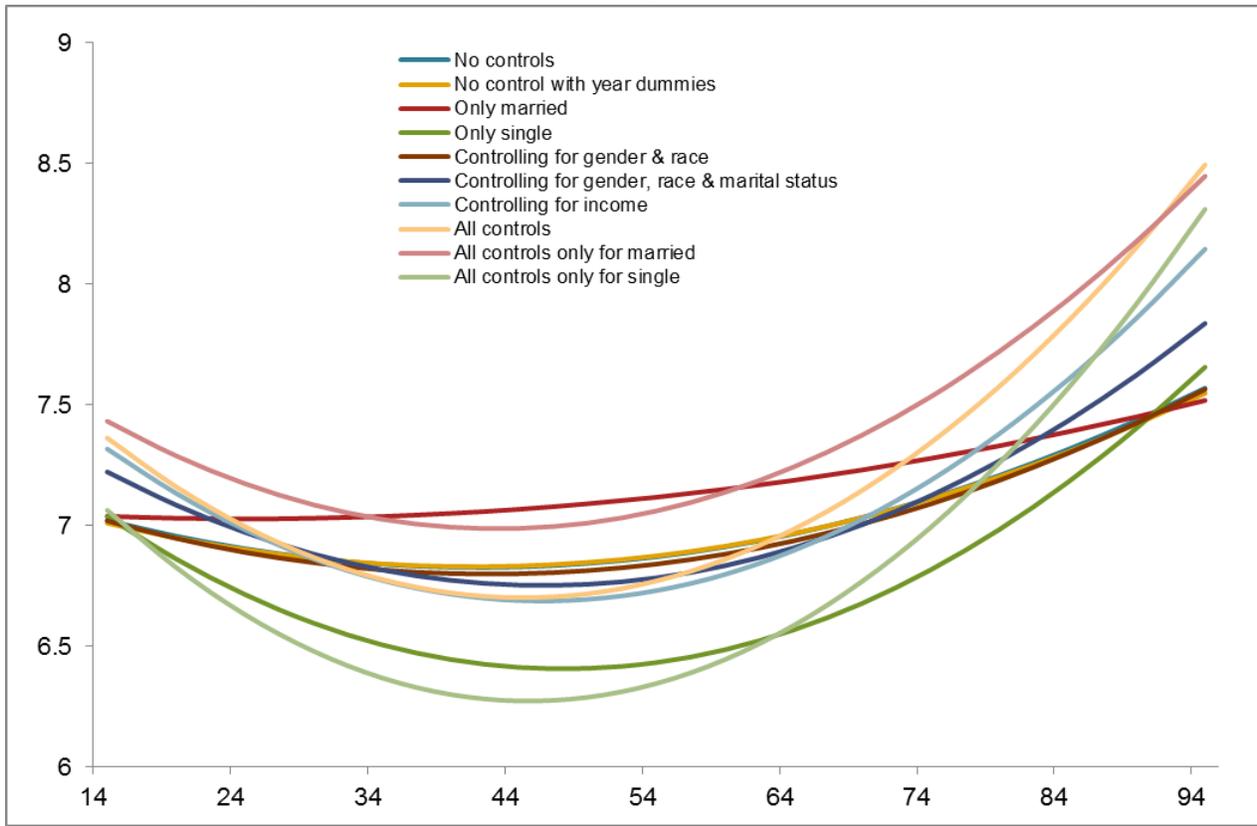
**Figure 50a: Married vs Non-Married Life Satisfaction in the US: Raw Data**



Source: Gallup Healthways data for the U.S.

The **all – raw data** (blue line) is a simple cross tabulation of life satisfaction and age for the whole sample. The **married – raw data** (yellow line) and **single – raw data** (red line) are simple cross tabulations of life satisfactions for married and unmarried cohorts, respectively. The vertical axis numbers represent happiness levels and the horizontal axis numbers represent age.

**Figure 50b: Marriage and the U-Curve in the U.S: differences between using controls**



Source: Gallup Healthways data for the U.S

Figure 50b shows several OLS specifications with the U.S. data. The vertical axis numbers represent happiness levels and the horizontal axis numbers represent age. The first (“**no controls**” – bright blue line) had life satisfaction as the dependent variable and only age and age<sup>2</sup> as controls. With this simple specification, the unmarried (“**only single**” – green line) have a clear U-curve but the married (“**only married**” – red line) do not, and the levels of the unmarried remain well below those of the married. When then use the sample as a whole and add controls successively: “**no controls with year dummies**” (years 2005-2008; dark yellow line), “**controlling for gender and race**” (brown line), “**controlling for gender, race and marital status**” (dark blue line), “**controlling for income**” (light blue line), “**all controls**” (controlling for gender, marital status, education level, income and employment; light yellow line) and all controls but differentiating between unmarried (“**all controls only for single**”; light green line) and married (“**all controls only for married**”; pink line). Except the first three without controls, all the rest include yearly dummy variables from 2005-2008. For all these different specifications we again get a consistent U-curve.

**Table 1: Summary Statistics**

Country	Best Possible Life (0 = Worst, 10 = Best)			Age			Marital Status (1 = Yes)			Gender (1 = Female)			Employment Status			Education: High School and/or Higher (1 = Yes)			Household Income (Int. \$ in logs)		
	Mean	Std.Dev	Freq.	Mean	Std. Dev.	Freq.	Mean	Std. Dev.	Freq.	Mean	Std. Dev.	Freq.	Mean	Std. Dev.	Freq.	Mean	Std. Dev.	Freq.	Mean	Std. Dev.	Freq.
Albania	5.35	1.97	6024	40.87	16.32	7063	0.65	0.48	7015	0.53	0.50	7071	0.49	0.50	4070	0.23	0.42	7069	8.94	0.94	7037
Argentina	6.39	2.05	7977	44.75	18.86	7999	0.51	0.50	7955	0.61	0.49	8000	0.46	0.50	4999	0.05	0.22	6979	9.09	0.82	7983
Australia	7.38	1.70	8210	49.15	18.18	8177	0.58	0.49	8202	0.55	0.50	8227	0.51	0.50	4014	0.33	0.47	8161	10.54	0.91	8199
Austria	7.30	1.77	7976	49.67	16.88	7952	0.61	0.49	7980	0.58	0.49	8010	0.54	0.50	6005	0.23	0.42	6965	10.47	0.66	8009
Belgium	7.12	1.55	7952	49.26	16.90	7970	0.63	0.48	7977	0.59	0.49	8043	0.46	0.50	5016	0.44	0.50	6859	10.34	0.70	8043
Bosnia Herzegovina	5.14	2.18	6976	43.02	17.37	8036	0.57	0.50	7964	0.55	0.50	8037	0.42	0.49	4024	0.13	0.34	8031	9.09	0.89	7945
Brazil	6.80	2.31	10153	42.26	17.64	10228	0.56	0.50	10222	0.60	0.49	10230	0.50	0.50	7107	0.06	0.24	8153	8.86	0.92	10203
Bulgaria	3.96	1.98	5964	51.65	18.56	5976	0.58	0.49	5944	0.60	0.49	6009	0.40	0.49	5006	0.20	0.40	5988	8.82	0.99	5622
Canada	7.52	1.67	10403	48.33	17.24	10231	0.58	0.49	10341	0.54	0.50	10429	0.58	0.49	7059	0.41	0.49	9341	10.51	1.06	10347
Chile	6.37	2.18	8157	45.18	18.23	8165	0.51	0.50	8127	0.57	0.49	8167	0.45	0.50	5029	0.14	0.35	7092	9.18	0.91	8137
China	5.02	1.98	36772	43.35	16.09	38393	0.79	0.41	26165	0.54	0.50	38580	0.62	0.48	25511	0.10	0.30	38436	8.97	1.21	38448
Colombia	6.29	2.48	7966	41.59	17.76	7998	0.50	0.50	7990	0.65	0.48	8000	0.42	0.49	5000	0.14	0.34	7962	8.83	0.87	8000
Croatia	5.71	2.03	5831	43.90	17.18	6987	0.58	0.49	6994	0.58	0.49	7068	0.53	0.50	4058	0.12	0.32	6007	9.44	0.86	6906
Cyprus	6.30	2.23	5462	46.84	18.26	5473	0.65	0.48	5496	0.56	0.50	5512	0.48	0.50	4512	0.30	0.46	5494	10.06	0.98	5486
Czech Republic	6.34	1.97	7104	45.71	17.04	7108	0.56	0.50	7117	0.59	0.49	7161	0.56	0.50	5088	0.12	0.32	7126	9.72	0.84	7161
Denmark	7.76	1.56	8754	49.98	17.18	8763	0.61	0.49	8724	0.58	0.49	8775	0.55	0.50	5761	0.19	0.39	7729	10.59	0.92	8773
Estonia	5.25	1.85	6181	48.35	18.76	6231	0.49	0.50	6217	0.61	0.49	6234	0.51	0.50	3021	0.22	0.41	6231	9.30	0.74	5226
Finland	7.51	1.56	6734	53.05	17.52	6754	0.60	0.49	6743	0.57	0.50	6766	0.48	0.50	4751	0.16	0.36	5723	10.41	0.78	6754
France	6.69	1.77	9876	48.54	17.59	9911	0.56	0.50	9929	0.60	0.49	9989	0.46	0.50	6761	0.25	0.43	7675	10.32	0.68	9969
Germany	6.70	1.82	32278	51.98	18.73	33114	0.53	0.50	33327	0.54	0.50	33392	0.48	0.50	26146	0.27	0.45	32208	10.40	0.78	33075
Greece	5.62	2.32	7977	48.44	18.42	7989	0.58	0.49	7950	0.56	0.50	8005	0.38	0.49	6003	0.12	0.33	6985	9.71	0.67	6974
Hungary	4.86	2.04	7041	51.77	18.22	7079	0.53	0.50	6053	0.60	0.49	7088	0.41	0.49	4045	0.17	0.38	7073	9.29	0.61	6061
India	5.01	1.95	35018	35.82	14.70	35243	0.71	0.46	35353	0.44	0.50	35434	0.47	0.50	28147	0.12	0.33	35256	8.19	0.80	33300
Ireland	7.14	1.81	7454	47.56	16.24	7319	0.61	0.49	7435	0.57	0.50	7502	0.50	0.50	5501	0.31	0.46	6435	10.15	1.02	6469
Italy	6.40	1.89	9971	48.89	16.44	9839	0.65	0.48	9944	0.60	0.49	10039	0.43	0.49	7021	0.16	0.36	7930	10.03	0.79	9001
Kosovo	5.48	2.10	7107	37.98	15.80	7181	0.60	0.49	7069	0.47	0.50	7181	0.36	0.48	4088	0.13	0.33	7177	8.31	0.82	6028
Latvia	4.93	1.82	6001	44.97	18.26	6049	0.52	0.50	5983	0.59	0.49	6052	0.51	0.50	3522	0.23	0.42	6048	9.17	0.74	5040
Lithuania	5.57	1.94	6870	46.14	18.79	7024	0.52	0.50	6983	0.53	0.50	7029	0.52	0.50	4501	0.30	0.46	7013	9.33	0.68	6003
Macedonia	4.71	2.18	6066	43.95	17.07	7059	0.68	0.47	7076	0.51	0.50	7129	0.39	0.49	5071	0.16	0.37	7109	9.11	0.87	5982
Mexico	7.03	2.14	8942	39.34	16.27	8006	0.61	0.49	8958	0.51	0.50	9006	0.48	0.50	6000	0.11	0.31	7961	9.31	1.15	7712
Montenegro	5.28	2.11	5778	39.89	15.45	6831	0.54	0.50	6758	0.52	0.50	6837	0.55	0.50	4000	0.12	0.33	6824	9.30	0.93	5936
Netherlands	7.50	1.29	7730	50.89	16.10	7696	0.63	0.48	7718	0.56	0.50	7754	0.58	0.49	4754	0.43	0.49	5714	10.56	0.76	6740
Peru	5.56	2.19	7927	38.97	17.39	8000	0.55	0.50	7964	0.57	0.50	8000	0.49	0.50	5000	0.11	0.31	6991	8.58	0.87	6978
Poland	5.77	1.96	7876	46.90	18.03	7939	0.58	0.49	7928	0.60	0.49	8029	0.46	0.50	5029	0.19	0.39	7964	9.55	0.72	7013
Portugal	5.34	2.18	7881	48.91	17.95	7929	0.61	0.49	7941	0.60	0.49	8026	0.48	0.50	6017	0.20	0.40	7917	9.81	0.87	6991
Romania	5.07	2.26	6934	50.48	18.60	6998	0.62	0.48	6955	0.59	0.49	7030	0.40	0.49	3008	0.13	0.34	7000	8.78	0.90	5956
Russia	5.51	2.03	21469	43.87	18.10	22012	0.50	0.50	21773	0.62	0.49	22021	0.60	0.49	15042	0.28	0.45	21921	9.31	0.90	21917
Serbia	4.75	2.14	6572	46.44	16.99	7618	0.59	0.49	7522	0.54	0.50	7618	0.45	0.50	4054	0.15	0.36	7614	9.03	0.82	5986
Slovakia	5.81	1.94	6000	47.67	17.30	6033	0.55	0.50	6041	0.58	0.49	6048	0.51	0.50	5030	0.14	0.35	6036	9.69	0.63	5029
Slovenia	6.02	2.07	6477	50.15	17.83	6473	0.60	0.49	6496	0.61	0.49	6516	0.50	0.50	5507	0.06	0.24	6487	10.09	0.72	5495
South Africa	5.06	2.09	8932	36.30	15.30	8948	0.30	0.46	8941	0.54	0.50	9001	0.30	0.46	5000	0.09	0.28	8962	8.78	1.15	7907
Spain	6.64	1.93	9952	45.82	16.67	9988	0.61	0.49	9988	0.58	0.49	10031	0.42	0.49	6018	0.09	0.29	7979	10.10	0.69	9024
Sweden	7.37	1.63	8699	49.45	17.86	8739	0.62	0.48	8676	0.55	0.50	8762	0.60	0.49	5761	0.41	0.49	6721	10.70	0.75	7753
United Kingdom	6.92	1.86	29410	51.65	16.97	30118	0.55	0.50	29308	0.54	0.50	30650	0.52	0.50	25393	0.37	0.48	25452	10.28	1.03	28589
United States	7.30	1.95	10323	51.78	18.40	10237	0.56	0.50	10263	0.53	0.50	10366	0.53	0.50	6061	0.43	0.49	9287	10.65	1.02	9311
Venezuela	6.85	2.34	7920	41.55	17.55	7830	0.49	0.50	7912	0.62	0.49	8000	0.42	0.49	5000	0.11	0.31	6961	9.23	0.70	6982

Source: Gallup World Poll

Notes: All statistics are for 2005-2014 and show the mean, standard deviation and frequency for each country and variable.

**Table 2: Life Satisfaction regression estimates**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
VARIABLES	Albania	Argentina	Australia	Austria	Belgium	Bosnia Herzegovina	Brazil	Bulgaria	Canada	Chile
age	-0.07880*** [-6.7]	-0.07974*** [-8.8]	-0.06959*** [-7.8]	-0.03544*** [-4.6]	-0.04335*** [-6.0]	-0.07421*** [-6.6]	-0.05444*** [-6.7]	-0.08198*** [-9.3]	-0.06588*** [-10.6]	-0.07556*** [-8.4]
age square	0.00071*** [5.6]	0.00073*** [7.8]	0.00082*** [9.4]	0.00028*** [3.7]	0.00038*** [5.1]	0.00053*** [4.5]	0.00054*** [6.2]	0.00069*** [7.9]	0.00071*** [11.4]	0.00063*** [6.7]
married	0.08679 [1.1]	-0.08873 [-1.5]	0.34046*** [5.5]	0.32595*** [6.6]	0.42640*** [8.7]	0.21726*** [3.1]	0.24850*** [4.5]	-0.08422 [-1.4]	0.51680*** [12.1]	0.14165** [2.3]
gender	-0.00829 [-0.1]	0.16699*** [2.8]	0.25104*** [4.5]	0.33391*** [7.4]	0.07701* [1.7]	0.14058** [2.3]	0.12670** [2.3]	0.00042 [0.0]	0.23706*** [6.0]	0.11932** [2.0]
educhs	0.66896*** [9.6]	0.41163*** [2.9]	0.17282*** [2.9]	0.26440*** [5.0]	0.31645*** [7.0]	0.50280*** [6.1]	0.23910** [2.2]	0.72654*** [10.6]	0.23868*** [5.9]	0.33430*** [3.9]
hhinciln	0.34613*** [11.8]	0.44400*** [11.1]	0.26640*** [7.6]	0.53192*** [14.8]	0.35481*** [10.3]	0.62785*** [17.0]	0.31553*** [10.5]	0.62202*** [16.6]	0.14957*** [8.3]	0.50871*** [14.6]
emp	0.48854*** [7.6]	0.35115*** [5.3]	0.35418*** [5.6]	0.24243*** [4.6]	0.31656*** [6.4]	0.19450*** [2.8]	0.09413 [1.6]	0.43167*** [6.8]	0.44881*** [10.0]	0.19048*** [2.9]
Constant	3.36111*** [10.1]	3.99615*** [9.2]	5.12692*** [12.2]	2.37849*** [5.8]	3.97099*** [10.3]	1.24269*** [2.9]	5.17239*** [16.3]	0.28518 [0.7]	6.48322*** [27.6]	3.70667*** [9.8]
Observations	4,041	4946	3,931	5,895	4,766	3,957	7018	4,707	6,745	4,939
R-squared	0.15	0.07	0.06	0.10	0.09	0.18	0.03	0.18	0.07	0.10

	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
VARIABLES	China	Colombia	Croatia	Cyprus	Czech Republic	Denmark	Estonia	Finland	France	Germany
age	-0.07783*** [-16.2]	-0.09090*** [-8.9]	-0.06691*** [-6.1]	-0.13252*** [-11.5]	-0.07446*** [-7.9]	-0.08056*** [-11.6]	-0.12336*** [-11.6]	-0.02556*** [-3.3]	-0.05677*** [-8.1]	-0.07039*** [-21.2]
age square	0.00085*** [16.8]	0.00087*** [8.0]	0.00048*** [4.1]	0.00130*** [10.9]	0.00051*** [5.1]	0.00090*** [12.6]	0.00111*** [10.4]	0.00022*** [2.8]	0.00051*** [7.2]	0.00062*** [18.6]
married	0.20284*** [5.5]	-0.02479 [-0.3]	-0.00896 [-0.1]	0.38949*** [4.5]	0.34599*** [5.9]	0.58790*** [12.7]	0.16712** [2.3]	0.21052*** [4.1]	0.30808*** [6.6]	0.26826*** [11.5]
gender	0.10703*** [4.4]	0.30592*** [4.2]	0.02600 [0.4]	0.14175** [2.1]	0.07107 [1.4]	0.14314*** [3.5]	0.17538** [2.5]	0.39619*** [9.0]	0.10765** [2.5]	0.19497*** [9.0]
educhs	0.40711*** [8.8]	0.51514*** [4.8]	0.61551*** [6.8]	0.54054*** [7.3]	0.53795*** [6.7]	0.05266 [1.0]	0.58432*** [7.5]	0.25511*** [4.1]	0.42759*** [8.6]	0.49000*** [20.2]
hhinciln	0.51231*** [47.1]	0.76548*** [18.7]	0.74875*** [15.5]	0.44360*** [11.8]	0.59979*** [12.7]	0.19992*** [6.5]	0.57642*** [10.4]	0.53624*** [14.4]	0.48255*** [14.7]	0.64660*** [42.2]
emp	0.02719 [1.0]	0.11667 [1.6]	0.10923 [1.6]	0.32479*** [4.3]	0.17908*** [2.9]	0.49515*** [10.1]	0.61175*** [7.7]	0.30729*** [5.8]	0.21404*** [4.4]	0.14659*** [5.6]
Constant	1.80104*** [12.4]	1.57519*** [3.7]	0.44787 [0.8]	3.24957*** [7.0]	2.34551*** [4.5]	6.30207*** [19.3]	2.39024*** [4.1]	2.00085*** [5.0]	2.61241*** [7.0]	1.53096*** [8.2]
Observations	24,972	4,960	3,840	4,392	4980	5,699	2,997	4,687	6,539	25692
R-squared	0.13	0.11	0.18	0.12	0.15	0.08	0.18	0.13	0.09	0.13

VARIABLES	(21) Greece	(22) Hungary	(23) India	(24) Ireland	(25) Italy	(26) Kosovo	(27) Latvia	(28) Lithuania	(29) Macedonia	(30) Mexico
age	-0.11998*** [-13.1]	-0.11257*** [-11.7]	-0.01411*** [-3.3]	-0.09209*** [-10.6]	-0.09295*** [-11.2]	-0.06050*** [-4.8]	-0.09807*** [-10.1]	-0.10770*** [-11.4]	-0.08339*** [-7.7]	0.00213 [0.2]
age square	0.00098*** [10.9]	0.00099*** [10.6]	0.00013*** [2.7]	0.00101*** [11.3]	0.00082*** [9.8]	0.00045*** [3.3]	0.00088*** [8.5]	0.00102*** [10.1]	0.00073*** [6.4]	-0.00023** [-2.2]
married	0.06548 [1.1]	0.11999* [1.8]	-0.06214** [-2.1]	0.33209*** [5.9]	0.28745*** [5.4]	-0.08825 [-1.1]	0.02247 [0.3]	0.05999 [1.0]	0.10184 [1.4]	-0.11200* [-1.8]
gender	0.20610*** [3.6]	-0.04473 [-0.7]	0.18119*** [6.9]	0.32138*** [6.5]	0.00125 [0.0]	0.11097* [1.7]	0.05900 [1.0]	-0.00201 [-0.0]	0.13150** [2.2]	-0.05189 [-0.9]
eduuchs	0.41822*** [4.9]	0.71330*** [8.6]	0.47539*** [12.7]	0.22388*** [4.0]	0.42657*** [6.9]	0.12201 [1.2]	0.55915*** [7.8]	0.36178*** [6.1]	0.31701*** [4.0]	0.62627*** [6.8]
hhinciln	0.60051*** [13.7]	0.74086*** [13.6]	0.80271*** [55.4]	0.23174*** [8.5]	0.34447*** [12.7]	0.58919*** [14.8]	0.67889*** [14.5]	0.81609*** [17.3]	0.66158*** [18.6]	0.14840*** [6.4]
emp	0.38726*** [5.9]	0.38477*** [5.3]	0.13048*** [4.8]	0.36069*** [6.6]	0.42002*** [8.2]	0.29980*** [4.0]	0.30017*** [4.3]	0.47790*** [7.2]	0.36558*** [5.5]	0.07040 [1.2]
Constant	1.92001*** [4.2]	0.54736 [1.0]	-1.78024*** [-12.8]	5.65799*** [16.9]	4.62203*** [13.9]	2.67326*** [6.5]	0.89955* [1.8]	-0.06212 [-0.1]	0.79920** [2.0]	6.51683*** [23.2]
Observations	5,914	4002	27,609	5289	6717	3972	3,423	4364	4,883	5,632
R-squared	0.16	0.15	0.14	0.06	0.08	0.14	0.18	0.19	0.15	0.06

VARIABLES	(31) Montenegro	(32) Netherlands	(33) Peru	(34) Poland	(35) Portugal	(36) Romania	(37) Russia	(38) Serbia	(39) Slovakia	(40) Slovenia
age	-0.08091*** [-6.5]	-0.06023*** [-9.1]	-0.05556*** [-6.1]	-0.06774*** [-7.7]	-0.11239*** [-12.4]	-0.11765*** [-9.4]	-0.05547*** [-10.6]	-0.13563*** [-11.5]	-0.09283*** [-10.2]	-0.12591*** [-14.2]
age square	0.00068*** [5.0]	0.00062*** [9.3]	0.00045*** [4.5]	0.00050*** [5.6]	0.00094*** [10.3]	0.00096*** [7.8]	0.00034*** [6.0]	0.00121*** [10.0]	0.00084*** [8.9]	0.00112*** [12.5]
married	0.12842* [1.8]	0.37729*** [9.0]	-0.05482 [-0.9]	0.24251*** [4.1]	0.01208 [0.2]	0.00478 [0.1]	0.09587*** [2.8]	0.22071*** [3.0]	0.21314*** [3.8]	-0.02699 [-0.4]
gender	0.09815 [1.6]	0.17636*** [4.6]	0.11896** [2.0]	0.11442** [2.1]	0.07703 [1.4]	-0.02863 [-0.4]	0.04638 [1.4]	0.01296 [0.2]	0.09435* [1.8]	0.12203** [2.3]
eduuchs	0.58206*** [6.1]	0.25350*** [6.5]	0.26322*** [2.7]	0.54420*** [8.0]	0.78382*** [11.5]	0.70682*** [6.0]	0.38234*** [10.8]	0.62460*** [7.0]	0.51374*** [7.1]	0.75853*** [6.2]
hhinciln	0.49097*** [12.1]	0.27526*** [10.8]	0.61152*** [17.1]	0.58814*** [15.2]	0.68490*** [20.3]	0.79502*** [16.0]	0.36426*** [16.8]	0.62895*** [14.5]	0.77900*** [16.9]	0.82587*** [20.5]
emp	0.15207** [2.2]	0.38174*** [8.5]	0.00894 [0.1]	0.21066*** [3.4]	0.36856*** [6.1]	0.23036*** [2.6]	0.13663*** [3.7]	0.21511*** [3.0]	0.45934*** [7.4]	0.23221*** [3.8]
Constant	2.32743*** [5.2]	5.23250*** [17.3]	1.77569*** [4.9]	1.65902*** [3.9]	1.01947*** [2.6]	1.19484** [2.3]	3.54152*** [14.7]	2.48468*** [5.3]	0.15960 [0.3]	0.60109 [1.3]
Observations	3907	4,635	4,898	4,767	5770	2878	14307	3,972	4967	5394
R-squared	0.09	0.10	0.09	0.16	0.20	0.20	0.12	0.14	0.15	0.17

	(41)	(42)	(43)	(44)	(45)	(46)
VARIABLES	South Africa	Spain	Sweden	United Kingdom	United States	Venezuela
age	-0.01359 [-1.5]	-0.09724*** [-11.4]	-0.05855*** [-7.9]	-0.06888*** [-16.3]	-0.09763*** [-12.6]	-0.04531*** [-4.7]
age square	0.00007 [0.7]	0.00093*** [10.7]	0.00062*** [8.1]	0.00077*** [18.5]	0.00106*** [14.0]	0.00036*** [3.5]
married	0.01985 [0.3]	0.12610** [2.3]	0.50668*** [10.4]	0.44585*** [16.7]	0.37384*** [6.8]	0.01782 [0.3]
gender	0.04741 [0.8]	0.28894*** [5.9]	0.12540*** [3.0]	0.24600*** [9.8]	0.33239*** [6.5]	0.30062*** [4.2]
educhs	0.51407*** [4.6]	0.37678*** [4.1]	0.02358 [0.5]	0.25283*** [9.4]	0.35816*** [6.8]	0.16856 [1.5]
hhinciln	0.43733*** [15.1]	0.84922*** [22.4]	0.28612*** [9.4]	0.25867*** [19.1]	0.29241*** [11.2]	0.38184*** [7.8]
emp	0.08256 [1.2]	0.31161*** [5.7]	0.45579*** [8.6]	0.34467*** [11.5]	0.42544*** [7.5]	0.30668*** [4.0]
Constant	0.28308 [0.9]	-0.35084 [-0.8]	4.87416*** [13.6]	4.97167*** [28.0]	5.29705*** [16.7]	3.77302*** [7.6]
Observations	4,909	5961	5632	20,899	5859	4712
R-squared	0.13	0.14	0.08	0.07	0.09	0.06

Source: Gallup World Poll

Notes: Coefficients for year dummies y2005-y2014 are not reported in regression tables for brevity. T-statistics in brackets.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.10

Table 2 shows the results derived from our simple OLS regression model. For our dependent variable, we rely on the best possible life (BPL) Cantril ladder question, where the best life is on step 10 and the worst at step zero. We control for marital status, gender, employment, education, and household income in international dollars.

**Table 3: Quantile regressions—Turning Points for each quantile**

Quantile	All countries	
	Average	
25	55.89	
50	53.75	
75	51.44	
90	48.47	

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Quantile	Bosnia									
	Albania	Argentina	Australia	Austria	Belgium	Herzegovina	Brazil	Bulgaria	Canada	Chile
25	61.20	58.23	44.69		70.26	88.65	54.33	60.14	47.37	60.40
50	57.92	55.32	43.42		58.52	70.40	48.63	62.10	44.74	63.66
75	57.25		40.57	52.81		69.53	44.26	57.24		57.14
90	50.10	43.43	36.98		47.82	74.92		63.12	36.39	57.70

	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
Quantile	Czech									
	China	Colombia	Croatia	Cyprus	Republic	Denmark	Estonia	Finland	France	Germany
25	48.40	54.29	69.45	51.91	86.41	44.43	58.93		60.84	60.03
50	43.55	50.62	65.02	51.41	70.81		56.30	50.47	55.89	58.86
75	41.62	47.90	96.43		81.31		58.45	59.85		
90	41.72			37.94	68.72	30.36	50.71		50.32	49.43

	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
Quantile	Greece	Hungary	India	Ireland	Italy	Kosovo	Latvia	Lithuania	Macedonia	Montenegro
25	63.21	54.81		47.14	57.66	87.02	57.27	52.88	52.20	61.98
50	61.73	55.00		43.26	60.14	67.70	54.15	54.55	53.08	58.85
75	60.66	61.32	48.33		58.25		60.77	54.06	60.50	65.15
90	57.56	64.28		39.06			52.08	49.23	60.91	

	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)
Quantile	Netherlands	Peru	Poland	Portugal	Romania	Russia	Serbia	Slovakia	Slovenia	Spain
25	48.22	65.72		58.97	60.55		55.34	56.85	55.20	54.97
50	47.74	62.04	71.11	58.37	62.23	72.98	56.28	55.78	59.87	54.51
75		62.79	75.41	64.29	65.52	84.05	57.29	54.77	55.34	50.54
90	48.17	49.08	55.82	54.38	71.10	61.51	53.74	53.90	54.29	46.38

	(31)	(32)
Quantile	United States	Venezuela
25	46.41	61.67
50	44.61	60.24
75	42.14	
90		

Source: Gallup World Poll

Table 3 reports detailed results for four quantiles: 0.25, 0.50 (median), 0.75 and 0.90, for each country whenever statistically significant. Quantile regressions allow us to analyze how turning points vary at different points of the well-being distribution within each country. For that, we follow the method described by Binder and Coad (2011) with bootstrapped standard error and 100 replications. As in our base-line regressions, we control for marital status, gender, employment, education, and household income in international dollars.

**Table 4: Life satisfaction regression estimates—World Value Survey**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
VARIABLES	Albania	Argentina	Australia	Bosnia Herzegovina	Brazil	Bulgaria	Canada	Chile	China	Colombia
age	-0.04297** [-2.0]	-0.07079*** [-6.9]	-0.03520*** [-4.7]	-0.09406*** [-3.2]	-0.00899 [-0.7]	-0.08551*** [-4.3]	-0.04349*** [-5.5]	-0.01692 [-1.5]	-0.10079*** [-7.0]	-0.01651** [-2.0]
age2	0.00040* [1.7]	0.00067*** [6.2]	0.00042*** [5.5]	0.00077** [2.4]	0.00016 [1.1]	0.00062*** [3.1]	0.00049*** [6.3]	0.00018 [1.5]	0.00118*** [7.5]	0.00015 [1.5]
married	-0.04742* [-1.7]	-0.10389*** [-7.1]	-0.16794*** [-12.7]	-0.03781 [-1.0]	-0.07483*** [-4.4]	-0.06247** [-2.0]	-0.17090*** [-11.5]	-0.06918*** [-4.5]	-0.11542*** [-5.9]	-0.05425*** [-4.7]
gender	0.00373 [0.0]	0.06353 [1.1]	0.13979*** [2.9]	0.04740 [0.3]	-0.12111* [-1.7]	0.09026 [0.8]	0.15892*** [2.9]	-0.05596 [-0.9]	0.15055*** [2.7]	-0.02156 [-0.5]
educls	0.35994*** [6.2]	0.05407** [2.4]	0.06830*** [4.6]	0.34007*** [3.3]	0.00083 [0.0]	0.42695*** [7.5]	0.07238** [2.0]	0.23793*** [6.1]	0.18348*** [8.6]	0.01737 [0.9]
emp	-0.10336*** [-4.8]	-0.07893*** [-5.1]	-0.04835*** [-3.5]	-0.10691*** [-3.6]	-0.04564*** [-2.8]	-0.14243*** [-5.4]	-0.07848*** [-5.6]	-0.03085** [-2.0]	-0.03714** [-2.5]	-0.05133*** [-5.5]
Constant	6.01477*** [11.6]	8.80509*** [33.9]	9.10491*** [44.1]	7.86042*** [10.2]	8.45732*** [26.5]	7.10890*** [13.1]	8.80528*** [39.0]	9.21390*** [29.7]	8.15824*** [22.9]	9.14705*** [46.9]
Observations	1,999	6398	6,174	1,200	4768	2073	4095	5,700	7,791	10,562
R-squared	0.05	0.04	0.05	0.05	0.02	0.10	0.05	0.02	0.03	0.01

	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
VARIABLES	Croatia	Cyprus	Czech Republic	Estonia	Finland	France	Germany	Hungary	India	Italy
age	-0.06543*** [-3.1]	-0.05082*** [-2.9]	-0.10442*** [-5.7]	-0.13793*** [-9.5]	-0.05701*** [-4.7]	-0.10524*** [-5.3]	-0.08959*** [-10.1]	-0.14598*** [-7.4]	-0.01467 [-1.4]	-0.09997*** [-3.6]
age2	0.00046** [2.1]	0.00057*** [3.1]	0.00112*** [5.8]	0.00119*** [8.0]	0.00052*** [4.1]	0.00096*** [5.0]	0.00085*** [9.6]	0.00129*** [6.3]	0.00012 [1.0]	0.00092*** [3.2]
married	-0.06991** [-2.2]	-0.07945*** [-3.0]	-0.12872*** [-4.7]	-0.11920*** [-5.1]	-0.08981*** [-5.9]	-0.17803*** [-5.5]	-0.15640*** [-11.4]	-0.15228*** [-6.9]	-0.05146*** [-3.4]	-0.17915*** [-5.7]
gender	0.13037 [1.1]	-0.17200* [-1.8]	0.11864 [1.3]	0.12267 [1.5]	0.45712*** [6.3]	0.18917 [1.6]	0.11380** [2.3]	0.10908 [1.3]	0.03330 [0.6]	-0.04425 [-0.4]
educhs		0.22596*** [4.3]	0.52688*** [8.1]	0.49068*** [7.3]	0.21482*** [4.4]	0.33768*** [5.0]	0.23978*** [8.8]	0.35822*** [4.6]	0.16936*** [11.8]	0.14732*** [2.2]
emp	-0.08617*** [-2.9]	-0.01897 [-0.8]	-0.07173** [-2.3]	-0.11053*** [-5.1]	-0.01155 [-1.0]	-0.09805*** [-3.4]	-0.13849*** [-11.3]	-0.04136* [-1.9]	-0.01939 [-1.6]	-0.02900 [-1.0]
Constant	8.23927*** [15.5]	7.98446*** [16.9]	7.93711*** [16.7]	9.02075*** [21.8]	10.55340*** [30.3]	9.26658*** [16.6]	9.69497*** [38.8]	7.94801*** [23.3]	6.31072*** [24.3]	9.64766*** [13.5]
Observations	1196	2,050	2071	2,554	3004	1001	6136	3,121	10,124	1,012
R-squared	0.04	0.03	0.05	0.16	0.04	0.09	0.07	0.08	0.07	0.04

	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
VARIABLES	Latvia	Lithuania	Macedonia	Mexico	Montenegro	Netherlands	Peru	Poland	Romania	Russia
age	-0.18612*** [-7.5]	-0.05461** [-2.0]	-0.12677*** [-5.2]	-0.04279*** [-5.1]	-0.03468 [-1.1]	-0.03986*** [-4.3]	-0.05377*** [-4.0]	-0.10779*** [-8.8]	-0.10818*** [-7.6]	-0.11691*** [-11.6]
age2	0.00181*** [6.8]	0.00061* [1.9]	0.00127*** [4.9]	0.00046*** [4.8]	0.00024 [0.7]	0.00047*** [5.2]	0.00062*** [4.1]	0.00094*** [7.5]	0.00091*** [6.3]	0.00105*** [9.8]
married	-0.02716 [-0.8]	-0.13406*** [-4.5]	-0.04408 [-1.3]	-0.07672*** [-6.8]	0.01177 [0.3]	-0.10727*** [-8.0]	-0.03183* [-1.8]	-0.16306*** [-8.5]	-0.07905*** [-3.6]	-0.11349*** [-7.6]
gender	-0.11396 [-0.9]	0.59424*** [4.8]	0.13356 [1.2]	0.07643 [1.6]	0.18251 [1.4]	0.08826 [1.6]	-0.05769 [-0.9]	0.02311 [0.3]	-0.00829 [-0.1]	-0.06683 [-1.2]
educhs	0.52913*** [5.0]	-0.05227 [-1.2]	0.43944*** [6.3]	0.22078*** [9.4]	0.30301*** [3.3]	0.14579*** [4.8]	0.25084*** [7.1]	0.28313*** [5.1]	0.40066*** [9.1]	0.28034*** [6.0]
emp	-0.06847** [-2.4]	0.02680 [0.9]	-0.09955*** [-4.2]	-0.02562** [-2.4]	-0.15443*** [-4.5]	-0.08301*** [-6.5]	-0.03481** [-2.0]	-0.05833*** [-2.7]	-0.15254*** [-7.4]	-0.04708*** [-3.2]
Constant	8.31217*** [13.1]	7.76540*** [12.3]	7.37154*** [11.8]	10.28502*** [34.7]	6.08671*** [7.4]	8.16232*** [31.5]	7.93352*** [23.3]	10.81233*** [27.3]	9.29030*** [23.4]	9.59304*** [30.6]
Observations	1200	2,131	2050	10,827	1,300	2,952	5422	4,057	4518	8,534
R-squared	0.09	0.03	0.05	0.05	0.05	0.06	0.04	0.06	0.13	0.11

	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)
VARIABLES	Serbia	Slovakia	Slovenia	South Africa	Spain	Sweden	United Kingdom	United States	Venezuela
age	-0.09176*** [-4.4]	-0.06585*** [-2.9]	-0.04598*** [-3.9]	-0.07446*** [-11.7]	-0.05969*** [-6.9]	-0.06361*** [-5.6]	-0.05613*** [-4.4]	-0.04815*** [-6.1]	-0.04971** [-2.2]
age2	0.00082*** [3.7]	0.00068*** [2.8]	0.00028** [2.4]	0.00085*** [11.8]	0.00049*** [5.7]	0.00071*** [6.1]	0.00065*** [5.1]	0.00054*** [6.8]	0.00056** [2.1]
married	-0.16941*** [-5.9]	-0.08945*** [-2.7]	-0.08353*** [-4.2]	-0.11397*** [-11.4]	-0.11777*** [-9.1]	-0.18275*** [-11.6]	-0.12405*** [-5.8]	-0.15802*** [-11.9]	-0.02131 [-0.7]
gender	0.14552 [1.5]	-0.14093 [-1.2]	0.05645 [0.8]	-0.24328*** [-11.1]	0.04336 [0.9]	0.06033 [1.0]	0.22456*** [2.8]	0.10210** [2.0]	-0.03747 [-0.3]
educhs	0.39582*** [6.4]	0.27240*** [3.7]	0.41023*** [8.7]	0.33755*** [18.7]	0.14070*** [5.0]	0.07623** [2.2]	0.04689 [1.5]	0.16539*** [4.6]	0.15962** [2.3]
emp	0.00694 [0.3]	-0.05516* [-1.7]	-0.05051*** [-2.8]	-0.11588*** [-13.5]	-0.06526*** [-5.3]	-0.06682*** [-4.0]	-0.06895*** [-3.5]	-0.04152*** [-3.5]	-0.09042*** [-3.3]
Constant	7.21786*** [12.9]	7.56354*** [13.2]	8.23534*** [24.5]	8.81132*** [56.8]	9.63513*** [38.1]	9.29058*** [30.4]	8.66628*** [24.5]	8.60254*** [37.5]	8.61719*** [15.3]
Observations	2,480	1,561	3113	16,786	6,319	3218	2,134	6,223	2,400
R-squared	0.04	0.02	0.10	0.07	0.05	0.06	0.04	0.04	0.03

Source: World Value Survey

Notes: Coefficients for year dummies y1990-y2014 are not reported in regression tables for brevity. T-statistics in brackets.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.10

Table 4 shows the results derived from our simple OLS regression model using WVS data. For our dependent variable, we rely on the life satisfaction question in WVS, which asks respondents to say how satisfied they are with their life as a whole and is measured on a scale from 1 to 10. In addition, we control for age, marital status, gender, employment and education.

**Table 5: Stress Regression Estimates**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
VARIABLES	Albania	Argentina	Australia	Austria	Belgium	Bosnia Herzegovina	Brazil	Bulgaria	Canada	Chile
age	0.01930*** [6.2]	0.01030*** [5.3]	0.00464* [1.7]	-0.01031*** [-4.7]	0.00545** [2.1]	0.01011*** [3.9]	0.00421** [2.5]	0.00873*** [4.4]	0.00463** [2.1]	0.00851*** [4.1]
age square	-0.00020*** [-5.9]	-0.00012*** [-6.1]	-0.00010*** [-3.6]	0.00004* [1.9]	-0.00009*** [-3.4]	-0.00011*** [-4.0]	-0.00007*** [-4.1]	-0.00010*** [-5.2]	-0.00010*** [-4.4]	-0.00010*** [-4.8]
married	0.01029 [0.5]	0.01595 [1.2]	-0.01888 [-1.0]	0.00474 [0.3]	-0.04822*** [-2.8]	-0.01133 [-0.7]	0.01258 [1.1]	-0.01182 [-0.9]	-0.02050 [-1.3]	0.02175 [1.5]
gender	0.00404 [0.3]	0.07536*** [5.8]	0.02095 [1.2]	0.01562 [1.2]	0.09393*** [6.0]	0.01250 [0.9]	0.10226*** [8.9]	0.05314*** [4.3]	0.05731*** [4.0]	0.09133*** [6.6]
educhs	-0.00950 [-0.5]	-0.04391 [-1.5]	-0.01526 [-0.8]	0.04166*** [2.7]	-0.00503 [-0.3]	0.03209* [1.6]	0.04152* [1.8]	0.04226*** [2.7]	-0.00776 [-0.5]	0.02488 [1.3]
hhinciln	-0.02204*** [-2.8]	-0.02848*** [-3.3]	-0.01746 [-1.5]	-0.00928 [-0.9]	-0.03253*** [-2.6]	-0.03743*** [-4.3]	-0.01294** [-2.1]	-0.04767*** [-5.6]	-0.01411** [-2.2]	-0.03648*** [-4.5]
emp	-0.01329 [-0.8]	0.07149*** [5.1]	-0.04275** [-2.2]	0.13092*** [8.6]	0.01584 [0.9]	0.01237 [0.8]	0.01829 [1.5]	-0.00647 [-0.4]	0.02975* [1.8]	0.05032*** [3.4]
Constant	0.33243*** [3.8]	0.24957*** [2.7]	0.56487*** [4.2]	0.73702*** [6.3]	0.66592*** [4.7]	0.47284*** [4.7]	0.30738*** [4.7]	0.50225*** [5.4]	0.60017*** [7.2]	0.44445*** [5.1]
Observations	3978	4,922	2,971	4,916	3789	3,897	7,049	4655	4,717	4911
R-squared	0.05	0.04	0.04	0.09	0.03	0.02	0.04	0.03	0.05	0.03

	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
VARIABLES	China	Colombia	Croatia	Cyprus	Czech Republic	Denmark	Estonia	Finland	France	Germany
age	0.00671*** [5.7]	0.01078*** [5.2]	0.01215*** [4.4]	0.01109*** [3.6]	0.00710*** [3.0]	-0.00087 [-0.4]	0.00803*** [3.1]	-0.00274 [-1.1]	0.00173 [0.9]	-0.00200** [-2.4]
age square	-0.00012*** [-9.7]	-0.00012*** [-5.5]	-0.00014*** [-4.8]	-0.00015*** [-4.8]	-0.00011*** [-4.4]	-0.00003 [-1.5]	-0.00010*** [-3.8]	-0.00004 [-1.5]	-0.00006*** [-3.1]	-0.00003*** [-3.6]
married	-0.04240*** [-4.7]	-0.01246 [-0.9]	-0.00259 [-0.1]	0.05417** [2.4]	-0.01434 [-1.0]	-0.00606 [-0.5]	-0.01793 [-1.0]	0.00853 [0.5]	-0.01949 [-1.4]	0.01122* [1.9]
gender	-0.04582*** [-7.7]	0.08914*** [6.0]	0.04094*** [2.7]	0.13671*** [8.0]	-0.00067 [-0.1]	0.03918*** [3.4]	0.02583 [1.5]	0.04391*** [3.0]	0.09627*** [7.4]	0.04714*** [8.5]
eduuchs	0.03724*** [3.3]	-0.01277 [-0.6]	-0.02912 [-1.3]	-0.04115** [-2.1]	0.04728** [2.4]	0.05409*** [3.8]	0.00254 [0.1]	0.05339*** [2.6]	0.03039** [2.0]	0.02466*** [4.0]
hhinciln	-0.03355*** [-12.5]	-0.03452*** [-4.2]	-0.03154*** [-2.6]	-0.03528*** [-3.1]	-0.02144* [-1.8]	-0.00093 [-0.1]	-0.06361*** [-4.8]	-0.04303*** [-3.4]	-0.02995*** [-2.9]	-0.00663* [-1.7]
emp	0.04772*** [7.3]	0.02043 [1.3]	0.11730*** [6.8]	0.00096 [0.0]	0.04408*** [2.8]	0.00366 [0.3]	-0.02822 [-1.5]	0.04078** [2.3]	0.03174** [2.2]	0.08452*** [12.7]
Constant	0.68260*** [19.0]	0.44272*** [5.1]	0.39000*** [2.9]	0.78792*** [5.8]	0.48058*** [3.7]	0.30381*** [3.3]	0.69405*** [5.0]	0.98664*** [7.5]	0.64133*** [5.5]	0.53989*** [11.3]
Observations	24,965	4,971	3871	3474	4,934	4,709	2,933	3709	5,633	24775
R-squared	0.04	0.03	0.04	0.05	0.04	0.04	0.02	0.07	0.04	0.08

	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
VARIABLES	Greece	Hungary	India	Ireland	Italy	Kosovo	Latvia	Lithuania	Macedonia	Mexico
age	0.01299*** [6.4]	0.01266*** [5.2]	0.00589*** [5.7]	0.00714*** [2.9]	0.00359 [1.5]	0.00028 [0.1]	0.01391*** [5.4]	0.01138*** [6.1]	0.00986*** [3.9]	0.00935*** [4.4]
age square	-0.00014*** [-6.9]	-0.00017*** [-6.9]	-0.00005*** [-4.2]	-0.00014*** [-5.4]	-0.00008*** [-3.2]	-0.00002 [-0.6]	-0.00017*** [-6.2]	-0.00013*** [-6.5]	-0.00011*** [-4.1]	-0.00010*** [-4.2]
married	0.01750 [1.3]	0.01492 [0.9]	-0.01186* [-1.7]	-0.00590 [-0.4]	0.02989* [1.9]	0.03954** [2.4]	0.00402 [0.2]	-0.00244 [-0.2]	0.01596 [0.9]	-0.01830 [-1.3]
gender	0.05377*** [4.3]	0.07745*** [4.9]	-0.02106*** [-3.3]	0.04858*** [3.4]	0.06592*** [4.9]	0.01923 [1.5]	0.01526 [0.9]	-0.00570 [-0.5]	-0.00014 [-0.0]	-0.00868 [-0.6]
eduuchs	-0.07507*** [-3.9]	-0.03148 [-1.5]	-0.01021 [-1.1]	0.02519 [1.6]	-0.01935 [-1.0]	-0.01414 [-0.7]	0.03497* [1.8]	0.01870 [1.6]	-0.01202 [-0.6]	-0.03367 [-1.6]
hhinciln	-0.03981*** [-4.1]	-0.02524* [-1.8]	-0.05304*** [-15.2]	-0.02862*** [-3.4]	-0.01821** [-2.2]	-0.02003** [-2.6]	-0.01960 [-1.6]	-0.03101*** [-3.4]	-0.04257*** [-5.1]	-0.00890* [-1.7]
emp	0.01487 [1.0]	0.01221 [0.7]	0.06140*** [9.4]	-0.00653 [-0.4]	0.08969*** [6.0]	0.03243** [2.2]	-0.00392 [-0.2]	-0.02635** [-2.0]	0.01854 [1.2]	0.06374*** [4.6]
Constant	0.81168*** [8.0]	0.41735*** [2.9]	0.57565*** [17.3]	0.66453*** [6.6]	0.56772*** [5.7]	0.48066*** [5.9]	0.22867* [1.7]	0.20817** [2.1]	0.57049*** [6.2]	0.22063*** [3.4]
Observations	5,916	3974	27500	4331	5,692	3,928	3,426	4,355	4,816	5,583
R-squared	0.11	0.05	0.03	0.05	0.05	0.04	0.02	0.02	0.03	0.02

	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)
VARIABLES	Montenegro	Netherlands	Peru	Poland	Portugal	Romania	Russia	Serbia	Slovakia	Slovenia
age	0.01008*** [3.8]	-0.00240 [-0.9]	0.00788*** [3.5]	0.00344 [1.6]	0.00776*** [3.3]	0.01712*** [5.9]	0.00126 [1.4]	0.01367*** [5.1]	0.00866*** [3.6]	0.00201 [0.9]
age square	-0.00011*** [-3.7]	-0.00003 [-1.1]	-0.00009*** [-3.9]	-0.00006*** [-2.8]	-0.00010*** [-4.1]	-0.00020*** [-6.9]	-0.00002** [-2.2]	-0.00014*** [-5.2]	-0.00013*** [-5.3]	-0.00007*** [-3.1]
married	0.01424 [0.9]	-0.01417 [-0.9]	0.00952 [0.6]	0.00510 [0.4]	0.02029 [1.3]	-0.01372 [-0.7]	-0.00667 [-1.2]	0.00700 [0.4]	0.03275** [2.2]	-0.00618 [-0.4]
gender	0.03736*** [2.8]	0.05322*** [3.8]	0.06841*** [4.6]	0.01716 [1.3]	0.06380*** [4.5]	0.07145*** [3.9]	0.01953*** [3.4]	0.03044** [2.0]	0.01915 [1.4]	0.03930*** [2.8]
educhs	0.01360 [0.7]	0.03455** [2.4]	-0.02481 [-1.1]	0.02341 [1.4]	0.02999* [1.7]	-0.02751 [-1.0]	0.01882*** [3.1]	0.01976 [1.0]	-0.01665 [-0.9]	0.09212*** [3.1]
hhinciln	-0.03122*** [-3.6]	-0.02419** [-2.5]	-0.02571*** [-3.0]	-0.02321** [-2.5]	-0.02100** [-2.3]	-0.01741 [-1.5]	-0.01242*** [-3.4]	-0.04602*** [-4.7]	-0.02553** [-2.1]	-0.04493*** [-4.4]
emp	0.02820* [1.9]	-0.02368 [-1.4]	0.03589** [2.4]	0.03300** [2.2]	0.06478*** [4.0]	0.05223** [2.5]	0.00545 [0.9]	0.05142*** [3.2]	0.12939*** [8.0]	0.02102 [1.3]
Constant	0.29740*** [3.1]	0.70948*** [6.1]	0.48474*** [5.5]	0.50930*** [4.9]	0.44670*** [4.3]	0.21555* [1.8]	0.20546*** [5.0]	0.43320*** [4.1]	0.43294*** [3.3]	0.82509*** [6.9]
Observations	3,885	3635	4852	4,822	4794	2864	14,300	3,962	4,945	4,436
R-squared	0.02	0.04	0.03	0.03	0.04	0.04	0.01	0.02	0.07	0.05

	(41)	(42)	(43)	(44)	(45)	(46)
VARIABLES	South Africa	Spain	Sweden	United Kingdom	United States	Venezuela
age	0.00736*** [3.7]	0.00360* [1.7]	-0.00010 [-0.0]	0.00559*** [5.3]	0.01036*** [4.8]	0.00853*** [4.6]
age square	-0.00006*** [-2.8]	-0.00009*** [-3.9]	-0.00007*** [-2.8]	-0.00011*** [-10.1]	-0.00016*** [-7.4]	-0.00011*** [-5.4]
married	0.02760* [1.9]	0.02572* [1.8]	0.02518* [1.7]	-0.02215*** [-3.3]	-0.01130 [-0.7]	0.05233*** [3.9]
gender	0.00686 [0.6]	0.10005*** [8.1]	0.07049*** [5.5]	0.03703*** [5.8]	0.03480** [2.4]	0.05758*** [4.2]
educhs	-0.00399 [-0.2]	0.03121 [1.3]	0.03778*** [2.8]	-0.00311 [-0.5]	-0.00555 [-0.4]	0.05727*** [2.7]
hhinciln	-0.02168*** [-3.5]	-0.06362*** [-6.6]	-0.01898* [-1.9]	-0.01328*** [-3.9]	-0.03322*** [-4.4]	-0.02047** [-2.2]
emp	-0.03062** [-2.1]	0.07070*** [5.1]	0.03559** [2.2]	-0.00865 [-1.1]	0.01293 [0.8]	0.04011*** [2.7]
Constant	0.21436*** [3.1]	0.96793*** [8.9]	0.60150*** [5.2]	0.56498*** [12.6]	0.73938*** [8.2]	0.29554*** [3.1]
Observations	4,909	5,958	4661	20,036	4786	4,748
R-squared	0.04	0.05	0.08	0.05	0.06	0.03

Source: Gallup World Poll

Notes: Coefficients for year dummies y2005-y2014 are not reported in regression tables for brevity. T-statistics in brackets.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.10

Table 5 shows the results derived from our simple OLS regression model. For our dependent variable, we rely on Gallup's stress question. We control for marital status, gender, education, household income in international dollars, and employment.

**Table 6: Marriage and the U Curve in the US—OLS results from Figure 50.b.**

VARIABLES	(1) No controls	(2) No control with year dummies	(3) Only married	(4) Only single	(5) Controlling for gender & race	(6) Controlling for gender, race & marital status	(7) Controlling for income	(8) All controls	(9) All controls only for married	(10) All controls only for single
age	-0.02234*** [-57.2]	-0.02107*** [-54.0]	-0.00502*** [-8.9]	-0.05513*** [-101.9]	-0.02424*** [-47.1]	-0.04360*** [-83.2]	-0.05850*** [-120.1]	-0.06547*** [-48.1]	-0.04943*** [-24.6]	-0.07665*** [-39.9]
c.age#c.age	0.00027*** [76.0]	0.00025*** [72.4]	0.00010*** [20.5]	0.00057*** [117.1]	0.00028*** [61.2]	0.00047*** [98.8]	0.00063*** [138.0]	0.00072*** [57.0]	0.00057*** [30.2]	0.00084*** [46.8]
1.marstat						0.61452*** [167.6]		0.30988*** [34.3]		
1.gender					-0.12302*** [-35.2]	-0.21614*** [-61.7]		-0.31144*** [-37.9]	-0.30858*** [-30.6]	-0.30310*** [-21.1]
2.edulev								0.08127*** [4.0]	0.12681*** [4.5]	0.04696 [1.6]
3.edulev								-0.02611 [1.1]	0.03894 [1.2]	-0.08340** [-2.3]
4.edulev								0.04838** [2.4]	0.09906*** [3.5]	0.00810 [0.3]
5.edulev								0.23297*** [11.4]	0.28541*** [10.1]	0.19685*** [6.3]
6.edulev								0.38348*** [18.2]	0.45252*** [15.7]	0.31686*** [9.8]
hhincgp							0.23015*** [336.0]	0.17985*** [85.6]	0.18648*** [70.2]	0.16507*** [47.8]
1.employ								0.13487*** [13.9]	0.06141*** [5.2]	0.24167*** [14.6]
2.race					-0.08646*** [-11.7]	0.04172*** [5.7]				
3.race					-0.13363*** [-13.0]	-0.08041*** [-7.9]				
4.race					0.05120*** [3.5]	0.04535*** [3.1]				
5.race					-0.18310*** [-23.2]	-0.14832*** [-18.9]				
ydv1		-0.32300*** [-68.9]	-0.27925*** [-48.9]	-0.38590*** [-49.6]	-0.36220*** [-61.6]	-0.37032*** [-63.6]	-0.31229*** [-62.4]			
ydv2		-0.10152*** [-21.7]	-0.07430*** [-13.0]	-0.13659*** [-17.7]	-0.14038*** [-23.9]	-0.14628*** [-25.1]	-0.07201*** [-14.4]			
ydv3		0.02242*** [4.8]	0.04622*** [8.1]	-0.00785 [-1.0]	-0.01494** [-2.5]	-0.02088*** [-3.6]	0.06546*** [11.5]			
ydv4		-0.00857* [-1.8]	0.01779*** [3.1]	-0.03975*** [-5.2]	-0.00542 [-0.7]	-0.00904 [-1.1]	0.02497*** [5.1]			
ydv6		0.02812*** [4.9]	0.08852*** [12.6]	-0.04252*** [-4.6]			0.02524*** [4.2]			
Constant	7.29619*** [704.1]	7.34051*** [684.2]	7.13575*** [443.6]	7.84056*** [542.1]	7.53659*** [520.8]	7.66597*** [533.1]	6.58721*** [514.9]	6.72585*** [176.1]	6.60570*** [117.5]	7.01662*** [125.1]
Observations	1,934,084	1.934e+06	1.151e+06	805468	1,287,061	1,283,940	1.434e+06	208229	125034	83195
R-squared	0.01	0.01	0.01	0.03	0.01	0.04	0.08	0.09	0.08	0.08
<b>Turning Point</b>	<b>41.37</b>	<b>42.14</b>	<b>25.10</b>	<b>48.36</b>	<b>43.29</b>	<b>46.38</b>	<b>46.43</b>	<b>45.47</b>	<b>43.36</b>	<b>45.63</b>

t-statistics in brackets

\*\*\* p<0.01, \*\* p<0.05, \* p<0.10

Source: Gallup Healthways data for the U.S.

T-statistics in brackets. \*\*\* p<0.01, \*\* p<0.05, \* p<0.10

Table 6 shows several OLS specifications with the U.S. data (see figure 50b for the graphical representation). The column (1) had life satisfaction as the dependent variable and only age and age2 as controls. Column (2) include yearly dummy variables from 2005-2008. Column (3) and (4) differentiate between married and unmarried respectively without controls. When then use the sample as a whole and add controls successively (5)-(8). The last two columns, we differentiate between married (9) and unmarried (10). For all these different specifications we again get a consistent U-curve.