

**Institute of Economics**

**Walter Adolf Jöhr Lecture 2013**

University of St. Gallen

Professor Andrew Oswald, Ph.D.

**Happiness Around the World:  
An Introduction to the Scientific Evidence**

St. Gallen, March 2014

## Walter Adolf Jöhr Lecture

University of St. Gallen



*Walter Adolf Jöhr*

Since 1988 the Institute of Economics has organized the Walter Adolf Jöhr Lectures at the University of St. Gallen, Switzerland. From 1937 onwards, Professor Dr. Walter Adolf Jöhr (1910-1987) devoted fifty years of service to our University, the legacy of which remains visible in many ways up to this day. He was one of the founders of the Institute of Economics. During his tenure as President of the University of St. Gallen (1957-1963), he orchestrated the planning and construction of the University's Main Building; visionary in its integration of art and architecture, it remains a widely-acclaimed feature of today's expanded campus. Many ground-breaking publications in Economics and adjacent fields also bear witness to the achievement of Walter Adolf Jöhr, the dedicated researcher.

# **Happiness Around the World: An Introduction to the Statistical Evidence**

**(Highlights of the lecture)**

**Andrew Oswald, Professor of Economics, University of Warwick**

**There is growing interest in how to measure the true happiness and well-being of a nation. In the modern world, indicators such as national income (GDP) are increasingly seen as out-of-date. This lecture will explain the latest scientific thinking, describe the new ideas being used by governments and researchers, list the really happy countries, and summarize what is understood about the determinants of the happiness of a country.**

## **1 Introduction**

Is modern society going in a sensible direction? To answer this vital but complex question, it is necessary to try empirically to assess whether in countries like ours (Great Britain, Switzerland, and other nations) people are happy with their lives and whether we are on the path to becoming happier.

The aim of this article, which is based on a lecture at the University of St Gallen, is to discuss what is known about the determinants of happiness. An especially interesting issue is: what is understood about why some countries are -- or appear in surveys to be -- happier than others? I will describe the latest evidence on that. This topic matters for politicians, economists, social scientists of many kinds, and of course also for informed citizens who are concerned about the future of their own societies.

Denmark often comes top of international happiness surveys; Switzerland tends to rank very near to the top. But why is that?

## **2 The Background**

We need to start with GDP. The originator of the concept of Gross Domestic Product was an American economist, Simon Kuznets. He was doubtful of the idea, even in the late 1930s, that GDP could be used as a measure of social welfare. Yet in the intervening years his caution came to be forgotten. News broadcasts around the industrialized world have for

decades focused on economic growth data – trumpeting the differences between a growth rate of, say, 1% and 3%.

More recently, there have begun to be moves to find a broader and more human measure of progress. The Stiglitz Commission (Stiglitz, 2009), set up by Nicholas Sarkozy, has played a major role. The report -- downloadable at [www.stiglitz-sen-fitoussi.fr](http://www.stiglitz-sen-fitoussi.fr) -- from that Commission argued that statistical offices should gather data on subjective well-being levels and other hedonic measures. The UK government, as one example, has begun to do so. It now collects annual information on questions like “*How happy were you yesterday?*” and on people’s life satisfaction and feelings of having a worthwhile life.

You might believe that the words ‘economics’ and ‘happiness’ do not go together very naturally in a sentence. These days, however, you would be wrong.

To do their statistical work, economics researchers in this field take random samples of people from nations across the world. They are interested in understanding what it is that explains -- in an empirical sense -- the patterns of happiness or mental health across, first, different sorts of human beings and, second, levels of happiness and mental health across different nations. Researchers look hard at the influence of economics factors, but also at other kinds of forces.

In this area of inquiry, two questions have been central. One is: should our goal for the rest of this century be, as it more or less has for the past 50 years, to try to maximise GDP? Should we have that aim, of four BMWs for everybody, by the end of the century? The spirit of the Stiglitz Commission report is that such a path would be the wrong one, and that emotions not pound notes should be measured. The second question, at the micro level, is: what shapes human well-being? This is the subject matter of an empirical literature in which many different sorts of researchers estimate multiple regression equations with well-being as a dependent variable.

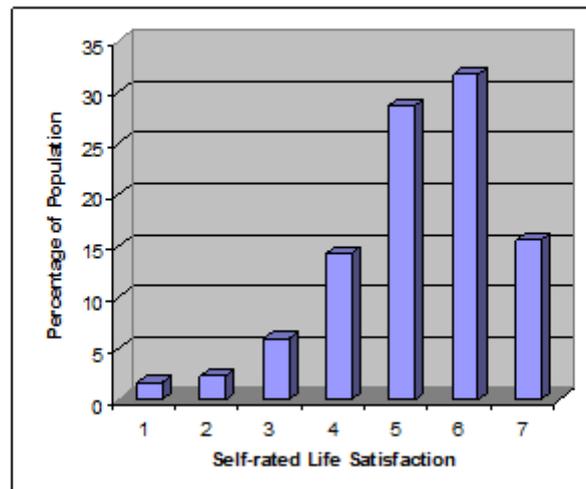
To assess genuine emotional prosperity, it is necessary to have a yardstick that is as psychological as it is economic. The simplest approach has been to ask survey questions about how content people are with their lives.

### **3 What Do Data Tell Us?**

In western countries, most individuals typically say they are rather happy with life. As an example, Figure 1 gives well-being answers for Britain. Here the data are from a question “How satisfied are you with your life overall?” in which interviewees were asked to give an answer on a scale from 7 (I am completely satisfied with my life) down to 1 (completely

dissatisfied). Figure 1 reveals the skewness typically found in well-being data. It should perhaps be emphasized that researchers are not dominantly interested in the exact words that interviewees use. Instead, they are interested in the ordering of answers across categories and why some sorts of people mark themselves high and others low.

### The distribution of life-satisfaction levels (among British people)



Source: BHPS, 1997-2003. N = 74,481

Figure 1

Unemployment has been shown to have a huge, negative impact on people's well-being. The size of this effect goes far beyond that of the drop in take-home income. Researchers such as Rainer Winkelmann at Zurich have demonstrated this in German panel data: they find that approximately 80% of people's measured decline in mental well-being after being made unemployed stems from non-pecuniary rather than pecuniary sources. It may be loss of face and self-esteem.

It is possible to study lots of other life events. Before couples divorce, we see in longitudinal data a low level of well-being, and then eventually a rise in their levels of happiness. Before a first-baby is born, there is a surge in reported well-being, but after that a marked drop to below the earlier levels.

There is evidence for many countries that happiness and mental health follow an U-shape through life, for many measures of mental wellbeing including psychiatric health. A typical person, in a developed economy, will slide down a giant U shape of happiness though life. Figure 2, which is due to the LSE economist Nick Powdthavee, is based on a random sample for Britain. The general U-shape has appeared in the published literature since the early work of Clark and Oswald in the Economic Journal in 1994. The numbers in a figure

like Figure 2 are statistical averages traced out from survey data and the U-shape is of course an approximation. But this shape has been replicated in huge numbers of papers -- for more than 50 countries, for example the work by Stone, Deaton et al (2010) (snap-shot at age distribution of psychological well-being in the USA for 400'000 sample of individuals). Over the next few decades, it is likely that researchers will try intensively to understand this U-shape in happiness. One possibility is to explain the U-shape as a sum of polynomial functions underlying overall well-being, see Stone et al paper in PNAS.

### The pattern of a typical person's happiness through life

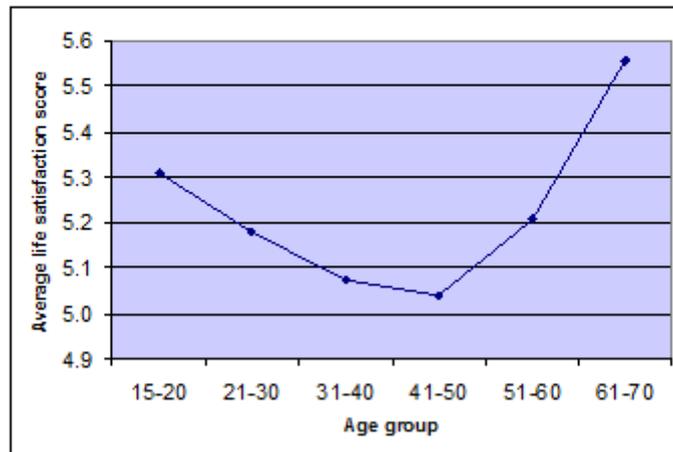


Figure 2

Following researchers such as Richard Easterlin and Edward Diener, the earliest approach to the formal measurement of human happiness and well-being was to take a survey such as the General Social Survey of the USA which asks individuals, randomly sampled, "taken altogether how would you say that things are these days?" Do you think of yourself as very happy, pretty happy or not too happy?" It was quickly found that approximately one third of Americans will tick the box saying they feel very happy with their life, and around 10 percent to 20 percent will tick the "I'm not too happy with my life" box.

Could physiological measures like heart rate and blood pressure be used as proxies for well-being? Economics is going to blend more and more with biological science in ways probably not very familiar. Are we going to have in the future a happiness index that is partly biological? It is widely believed that high blood pressure is a sign of high of mental strain. But evidence shows that people with high blood pressure are actually less stressed: in random samples of British people there is a negative relationship between mental strain and systolic

blood pressure. Mental strain is measured by questions like lost much sleep over worry, felt constantly under strain, etc. The next 30-years are likely to see economists work with psychological and hard-science data.

Another potential measure of emotional prosperity is a General Health Questionnaire (GHQ) score. It is an indicator of psychological distress and mental strain. This measure originally was used by epidemiologists and doctors; it is a summary statistic that aggregates people's answers to a particular string of queries. In one version of this measure, individuals answer 12 separate mental-distress questions: "Have you lost much sleep over worry?"; "Been able to concentrate on things?"; "Felt you are playing a useful part in things?"; "Felt capable of making decisions about things?"; "Felt constantly under strain?"; "Felt you could not overcome your difficulties?"; "Been able to enjoy your normal day-to-day activities"; "Been able to face up to your problems"; "Been feeling unhappy and depressed?"; "Been losing confidence in yourself?"; "Been thinking of yourself as a worthless person?"; "Been feeling reasonably happy all things considered?". It has been shown that these patterns correlate well with simpler happiness-survey patterns. Work going on today by psychiatrists and economists at Warwick Medical School is developing new GHQ well-being measures to capture a fuller range of emotions.

Well-being researchers take information on life-satisfaction numbers and GHQ scores and then estimate regression equations -- in everyday language, the researchers take large numbers of data points and estimate best-fitting lines -- and in that way they try to uncover the relationships between income and education, gender, having children, and reporting whether or not people are happy with their life and have good mental health. Given the evident complexity of a concept such as human well-being, it is natural to be concerned with the issue of whether this can be done in a believable, systematic manner. One thing we know is that if researchers look at slices through human brains while people are in an MRI scanner, emotions such as happiness and sadness do show up in distinct ways in different parts of the brain, so there at a physiological level we know something about what looks like high happiness relative to low happiness. We know also that well-being scores are correlated with blood pressure and heart-beat. On happiness and hypertension, it has recently been shown in that a statistical relationship exists in which countries where people actually say they are happy are also nations in which there is less reported hypertension (high blood pressure). Hence these subjective responses of people in surveys are correlated with objective well-being criteria.

A recent attempt, in which I was involved, to address the broad issue -- that of whether objective and subjective data match up -- in another kind of setting is described in Figure 3. It has a light-hearted side, but makes a serious point. Height may seem a strange variable

to study, but it has the scientific advantage that it is verifiable in a way that is not open to dispute. In that study, the simple question asked of individuals was, in a similar kind of spirit to happiness-questionnaire inquiries, *How tall do you feel you are (put a cross on the line)?* *Very short .... Very tall.*

## Feelings of height and actual height in 106 female students

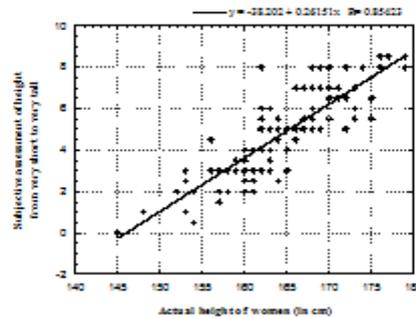


Figure 3

As can be seen, there is a strong correlation between subjective tallness and actual tallness. So people's subjective views contain lots of real information.

### 4 The Contribution of Richard Easterlin

The most important issue under current debate in the economics of happiness is whether 'Easterlin's Paradox' is correct. This is the idea, suggested by Richard Easterlin, a former visiting professor at Warwick and a professor at the University of Southern California that in the developed countries extra economic growth is now not making us happier. Figure 4 was the original demonstration and Figure 5 gives modern evidence in the same vein. If Easterlin is right, as many researchers think, it may be because humans care dominantly about relative income and status, and, unfortunately, there is only a fixed amount of status to go around at any one time in a society. The economics of growth and happiness would then be a bit like the spectators at an exciting football match. The first one to stand up gets for a few moments a better view of the match; but by the time his or her neighbours are up, nobody is better off (indeed they may simply be more tired, en masse). This is the spectre that haunts conventional economics and conventional policy-making. Whether or not the paradox is

confirmed empirically, the main reason to study economics is surely that we care about human happiness and how it might be improved.

### Average Happiness and Real GDP per Capita for Repeated Cross-sections of Americans.

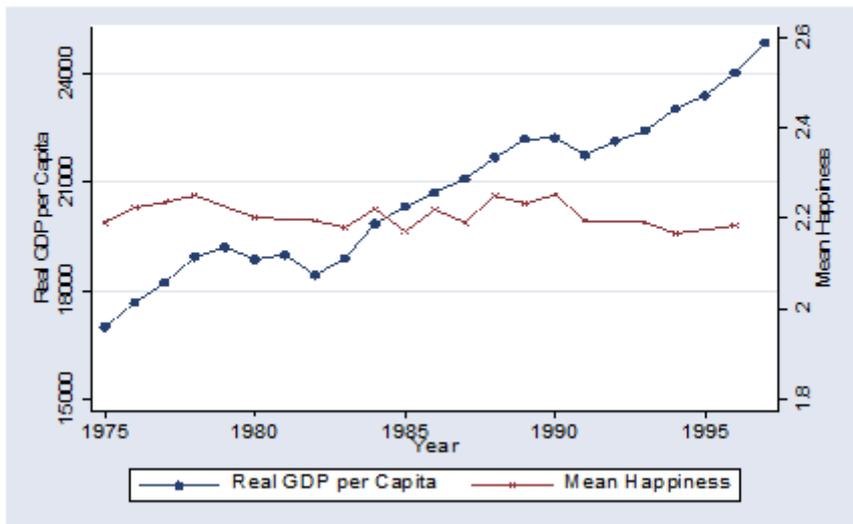


Figure 4

### Life-satisfaction country averages

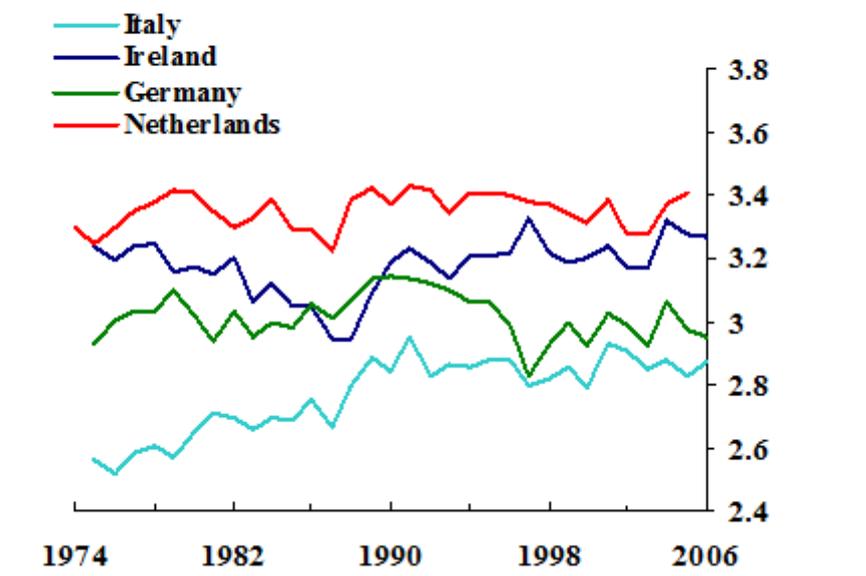


Figure 5

## 5 The Bottom Line

If we use the latest methodology, we can take data from many countries, and use the data to work out the characteristics of happy countries. My preference is to stick to so-called “fixed effects” estimates. These are estimates that adjust for the unchanging features of countries (like whether they are democratic, small, in the south or north, and so on). This kind of analysis produces a number of findings that are as robust as is possible given our current knowledge.

In my view, looking at the existing literature and weighing up the quality of the evidence as best we can, the following characteristics, in particular, appear to help a nation to be happy:

- High social spending as a percentage of GDP
- Generous unemployment benefits, as a kind of social safety net
- Clean air, namely, low pollution levels
- Low unemployment and inflation rates
- Low crime and corruption
- Openness to trade
- And possibly favourable genes (though this is still controversial).

Now we can see, from this list, why nations like Denmark and Switzerland tend to do well.

At the time of writing, most political leaders in the western countries have little or no idea about this statistical evidence. Many of these leaders still give speeches advocating higher economic growth and a smaller size for the public sector. I hope that eventually this real empirical evidence from the economics of happiness will be brought to bear in public debate.

Emphasis on growth is misguided, happiness is the new GDP! The well-being of our nations is too important to leave to guesswork.

*Andrew Oswald has been a professor of economics at Warwick since 1996. His work lies mainly at the border between economics and behavioural science. He serves on the editorial board of the journal Science, as well as economics journals, and often writes for newspapers and the media.*

**Further sources for interested readers:**

Alesina A, Di Tella R, MacCulloch R (2004) Inequality and happiness: Are Europeans and Americans different? *Journal of Public Economics* 88: 2009-2042.

Biswas-Diener R, Vitterso J, & Diener E (2010) The Danish effect: Beginning to explain high well-being in Denmark. *Social Indicators Research* 97:229-246.

Blanchflower D, & Oswald AJ (2008) Hypertension and happiness across nations *Journal of Health Economics* 27:218-233.

Blanchflower DG, & Oswald AJ (2011) International happiness: A new view on the measure of performance. *Academy of Management Perspectives* 25:6-22.

Cantril H (1965) *The pattern of human concerns*. New Brunswick, NJ: Rutgers University Press.

Chiao JY, & Blizinsky KD (2010) Culture-gene coevolution of individualism-collectivism and the serotonin transporter gene. *Proceedings of the Royal Society. Biological Sciences* 277: 529-537.

De Neve J-E, Christakis NA, Fowler JH, & Frey BS (2012) Genes, economics, and happiness. *Journal of Neuroscience, Psychology, and Economics* 5:193-211.

Diener E, Suh EM, Smith H *et al.* (1995) National differences in reported subjective well-being: Why do they occur? *Social Indicators Research* 34:7-32.

Di Tella R, MacCulloch RJ, & Oswald AJ (2003) The macroeconomics of happiness. *Review of Economics and Statistics* 85: 809-827.

Easterlin RA (2013) Happiness, growth, and public policy. *Economic Inquiry* 51:1-15.

Fearon J (2003) Ethnic and cultural diversity by country. *Journal of Economic Growth* 8: 195–222

Gallup (2009). *World Poll Methodology*. Technical Report. Washington, DC.

Helliwell J (2003) How's life? Combining individual and national variables to explain subjective well-being. *Economic Modelling* 20:331-360.

Helliwell J and Wang S (2013) World Happiness: Trends, Explanations and Distribution, in *World Happiness Report 2013*, chapter 2.

Hofstede G (2001) *Culture's consequences: Comparing values, behaviors, and organizations across nations*. Thousand Oaks: CA 2<sup>nd</sup> edition. Sage.

Hudson J (2006) Institutional trust and subjective well-being across the EU. *Kyklos* 59: 43-62.

- Nei M (1972) Genetic distance between populations. *American Naturalist*. 106: 283.
- Oswald AJ & Wu S (2010) Objective confirmation of subjective measures of human well-being: Evidence from the USA. *Science* 327:576-579.
- Oswald AJ, & Wu S. (2011) Well-being across America. *Review of Economics and Statistics* 93: 1118-1134.
- Ott JC (2011) Government and happiness in 130 nations: Good governance fosters higher level and more equality of happiness. *Social Indicators Research* 102:3-22.
- Ploubidis GB, & Grundy E (2009) Later-life mental health in Europe: A country-level comparison. *Journals of Gerontology Series B – Psychological Sciences and Social Sciences* 64:666-676.
- Senik, C (2011) Why are the French so unhappy? The cultural dimension of happiness. PSE working paper, Paris.
- Spolaore E, & Wacziarg R (2009) The diffusion of development. *Quarterly Journal of Economics* 124: 469-529.
- Stevenson B, Wolfers J (2008) Economic growth and subjective well-being: Reassessing the Easterlin Paradox. *Brookings Papers on Economic Activity* Spring, 1: 1-102.
- Stiglitz J, Sen AK, and Fitoussi J-P (2009) Commission on the measurement of economic performance and social progress. A report to Nicholas Sarkozy. Paris. Downloadable at [www.stiglitz-sen-fitoussi.fr](http://www.stiglitz-sen-fitoussi.fr)
- Stone, A. A.; Schwartz, J. E.; Broderick, J. E.; and Deaton, A (2010) A Snapshot of the Age Distribution of Psychological Well-being in the United States, *Proceedings of the National Academies of Science*, 107(22), 9985–90.