

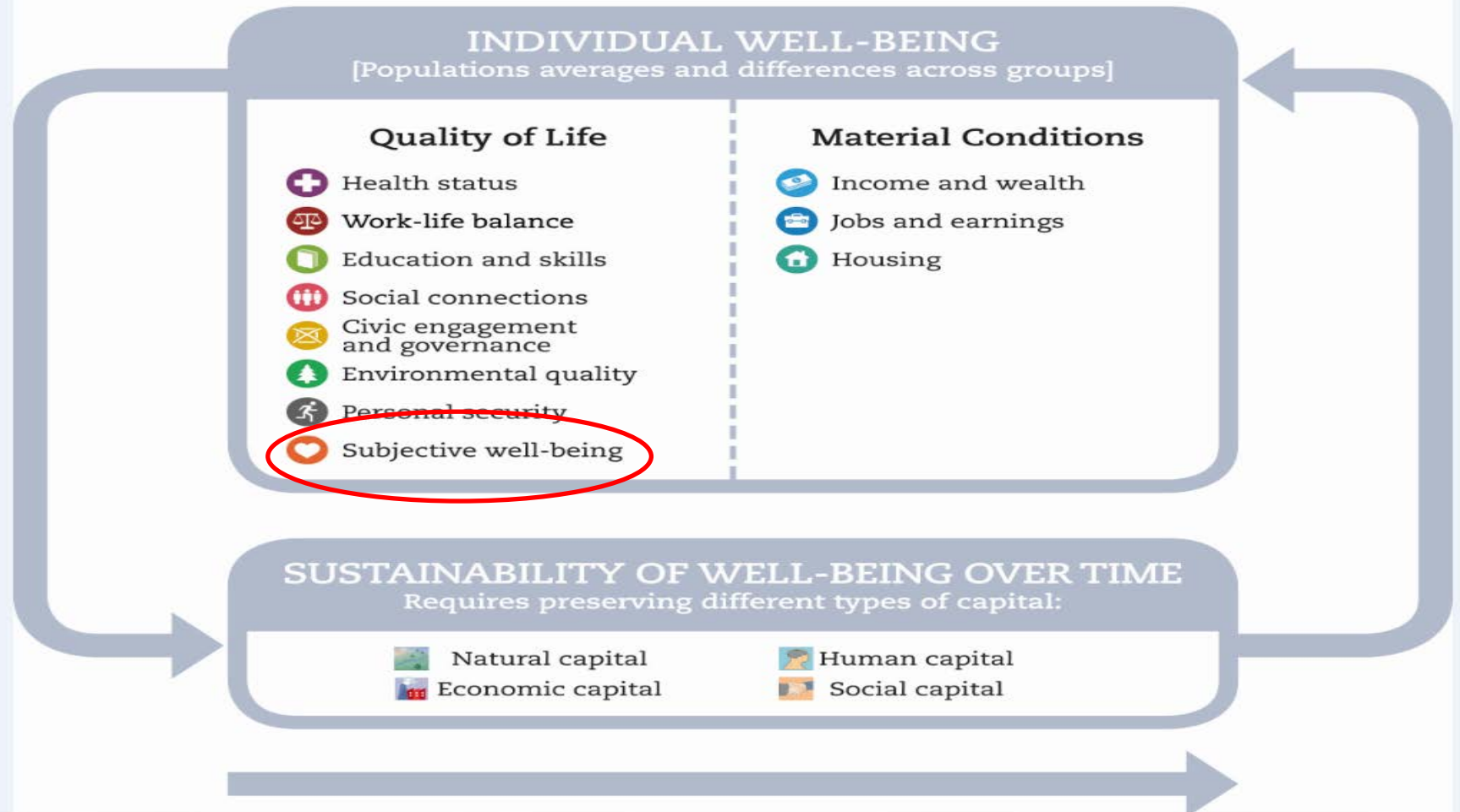
Better Policies for Better Lives: Policy for Well-being and Social Progress

Lesson 3. Subjective well-being

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Subjective well-being in OECD framework



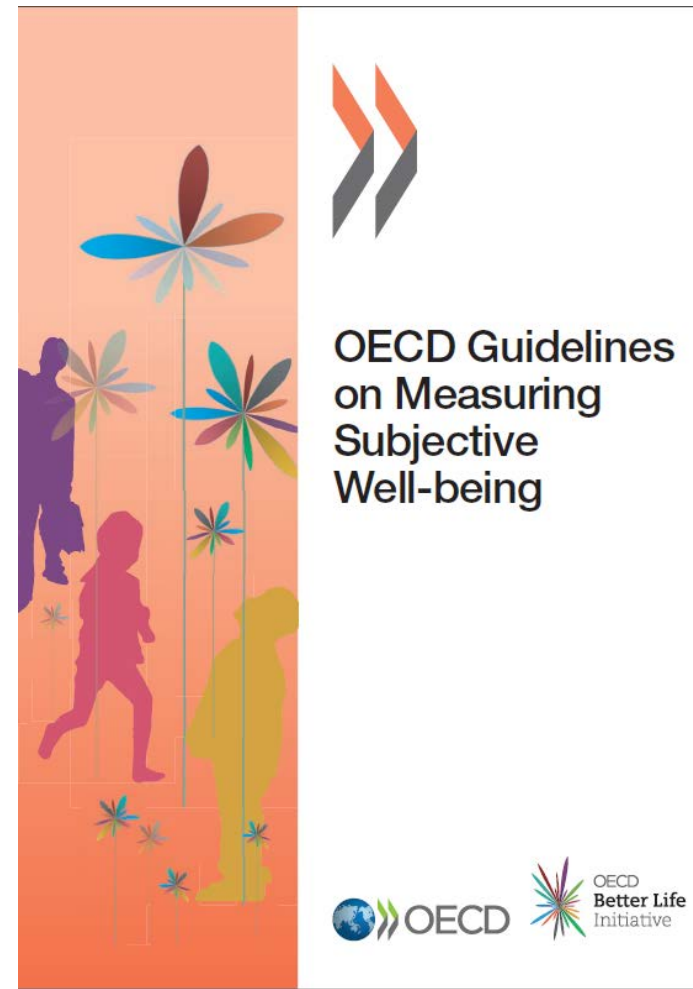
Structure of this lesson

- A. Concept and dimensions
- B. Measurement issues
- C. Using SWB to complement other measures
- D. Drivers of SWB
- E. Objections: set-points and cultural biases
- F. Policy uses

A. Concepts and Dimensions (1)

- SWB often understood as synonym of “happiness”: useful but also misleading
- OECD definition:

“Good mental states, including all of the various evaluations, positive and negative, that people make of their lives, and the affective reactions of people to their experiences” (OECD Guidelines on Measuring Subjective Well-Being)



A. Concepts and dimensions (2)

- Subjective aspects and subjective measures
 - Objective aspects are those that can be observed by a third party; e.g. unemployment can be measured through either objective metrics (e.g. administrative counts of people receiving benefits) or through people's self-reports (e.g. labour force surveys)
 - Subjective aspects are those where only people can report on them: e.g. SWB may be measured through objective biological markers of neural activity in very small samples, but in large samples it can only be measured through self-reports
- SWB is 'subjective' because only people can report on their mental states: they are the best judges of these states

A. Concepts and dimensions (3)

- Much of the research on SWB (mental states) is the result of work by positive psychologists
- But concept also appeals as many economists, who have used measures of SWB as a proxy for “utility”



$$U_i = f_i(C_{i,n}, X_{i,n})$$

Utilitarianism, “The highest principle of morality is to maximise happiness, the overall balance of pleasure over pain” (J. Bentham)

- Opulence: focus on $C_{i,n}$
- Functionnings: focus on $f_i(C_{i,n}, X_{i,n})$
- Welfarist: focus on U_i , utility as the single ‘left hand’ variable of interest (driven by health, education, environmental quality, governance, etc.)



A. Concept and dimensions (4)

- In SWB a single entity? No, three conceptually different dimensions, with different drivers and different impacts
- Evaluations of life as a whole (or of specific domains): reflective
- Affective states, positive (happiness, joy, contentment, pride) and negative (anger, worry, stress, shame): experience
- Eudaimonic well-being (competences, autonomy, meaning & purpose): reflective

A. Concept and dimensions (5)

Life evaluations

- **What are they?** Subjective evaluation by respondents of his/her states of mind, based on a frame of reference defining the range of possible states; statement of his position with that frame, with 'best' and 'worst' life as defined by them
- **How measured?** Cantril's ladder (self-anchoring striving scale), first used in 1965 to study the hopes, fears and happiness in 14 countries

"The following question asks you how satisfied you feel, on a scale from 0 to 10. Zero means you feel 'not at all satisfied' and 10 means you feel 'completely satisfied'.

Overall, how satisfied are you with life as a whole these days?"
- **Summarised** by single score for each person, then averaged across respondents (or share of respondents above given threshold)

A. Concept and dimensions (6)

Affective states (experienced/hedonic well-being)

- **What are they?** A person's feelings, states and emotions, assessed at a point in time (to minimise memory biases / recall errors). Positive (happiness, calm, contentment) and negative (misery, pain, depression, worry, sad, stress, tired)
- **How measured?** Gold standard: Experience sampling.
Most often through:
 - General surveys: *"Think about how you felt yesterday on a scale from 0 (i.e. you did not experience the feeling at all) to 10 (i.e. you experience the feeling all the time. How about [happy/worried/depressed]?"*)
 - Time use surveys (DRM, length of activities, with whom, feelings)
- **Summarised** through individual-level measures of 'net affect balance', i.e. difference between positive affect (mean score for questions on positive affect) and negative affect (mean score for qs on negative affect) for each respondent, averaged across respondents

A. Concept and dimensions (7)

Eudaimonia (the 'good life' rather than the 'pleasant life')

- **What is it?** The extent to which a person believes that his/her life has meaning and purpose (Aristotelian notion of the 'good life'). But also psychological states such as idea of 'flourishing' and 'thriving'
- **How measured?** Less consensus, but most often measured through questions asking whether respondents agree/disagree with
 - various statement about themselves (*"on a scale 0 [disagree completely] to 10 [agree completely], [I feel that what I do in my life is worthwhile/ I feel very positive about myself/ I get a sense of accomplishment from what I do]?"*); or
 - more experiential questions (*"on a scale 0 to 10, how much of the time yesterday you [had a lot of energy/felt clam/felt lonely]?"*)

A. Concept and dimensions (8)

- Are different components of SWB really capturing different phenomena? Look at the data (GWP)

	Purpose	Life Satisfaction	Positive Affect	Negative Affect
Purpose	1.000			
Life Satisfaction	0.134	1.000		
Positive Affect	0.142	0.229	1.000	
Negative Affect	-0.091	-0.231	-0.3855	1.000

Correlation
Coefficients for
'Purpose', 'Life
Satisfaction',
'Positive Affect' and
'Negative Affect'

**362,000 individuals
across (37 countries)**

B. Measurement issues

- Like any self-reported measure, subjective well-being is affected by survey methodology
- Subjective well-being data are “noisy” but contain meaningful signals

→ All measures contain error:



Solution is not to stop measuring, but to **reduce manage** error

... to do that, we need to **understand where the error comes from**

•B. Measurement issues (2)

➤ Where does survey error come from? Complex interaction among:

- Respondent factors (e.g. fatigue, failures in memory, lack of motivation)
- Survey factors (e.g. confusing/poorly constructed questions, question order effects, survey mode, etc...) + sampling (days and people)
- Situation factors (e.g. “irrelevant” cues like the weather, chance occurrences)
- The construct being measured (e.g. cognitive burden, respondent interest)

➤ But errors can be minimised through guidance on

- Question wording
- Response formats
- Timeframes for evaluations
- Question order and context effects
- Survey mode effects

B. Measurement issues (3)

- Until a few years ago, the idea of measuring SWB in large representative samples of the population would have appeared preposterous: measurement limited to small scale convenient samples.
- Problems with using whatever data existed:
 - Limited data led researchers to work with whatever data was available, i.e. evaluations and affects used interchangeably in empirical research
 - Measures of affect are shaped by changes in people's circumstances in different ways than life evaluations: choice of which SWB dimension is used has strong effect on conclusions
 - Using only measures for one SWB dimension implies that results can be dominated by response styles (e.g. a cultural predisposition or aversion to making extreme responses)

B. Measurement issues

Solution:

- Develop quality-data on life evaluation, affects & eudamonia
- It is happening already:
 - OECD *Guidelines on Measuring Subjective Well-Being* 2014 endorsed by OECD Committee on Statistics
 - Today most OECD countries produce measures of some/ most components of SWB as part of official statistics

B. Measurement issues (3) OECD guidance and prototype question modules

Six question modules

A: Core

B: Life evaluation

C: Affect

D: Eudaimonia

E: Domain evaluation

F: Experienced well-being

Box B.6. Day reconstruction method questions

I now want to ask you some questions about how you felt yesterday.

The computer has selected three time intervals from your diary that I will ask you about.

Box B.7. Experienced well-being question

Question F8 below should be included in the time-use diary filled out by respondents. See below for an example.

F8. Was this moment pleasant or unpleasant?

[from -3: very unpleasant to +3: very pleasant]

	Qu'avez-vous fait durant les 3 heures qui ont précédé la visite de l'enquêteur ?	Faisiez-vous autre chose en même temps ?	Était-ce un moment agréable ou désagréable ? (de -3 : très désagréable à +3 : très agréable)
.... h 00			-3 -2 -1 0 +1 +2 +3
10			-3 -2 -1 0 +1 +2 +3
20			-3 -2 -1 0 +1 +2 +3
30			-3 -2 -1 0 +1 +2 +3
40			-3 -2 -1 0 +1 +2 +3
50			-3 -2 -1 0 +1 +2 +3
.... h 00			-3 -2 -1 0 +1 +2 +3

If yes, with whom were you interacting? [include people on the telephone/online chat, etc.]

Note: [Activity] refers to the respondent's primary activity for the episode being discussed.

conditions, or in all surveys

- Two options are included for collecting
- Conducted as a time-use survey or a momentary survey
- Experienced well-being
- Their only questions encourage all countries
- Encouraged for inclusion in all Time Use

→ But the Guidelines contain much more than just the question modules!

B. Measurement issues (4)

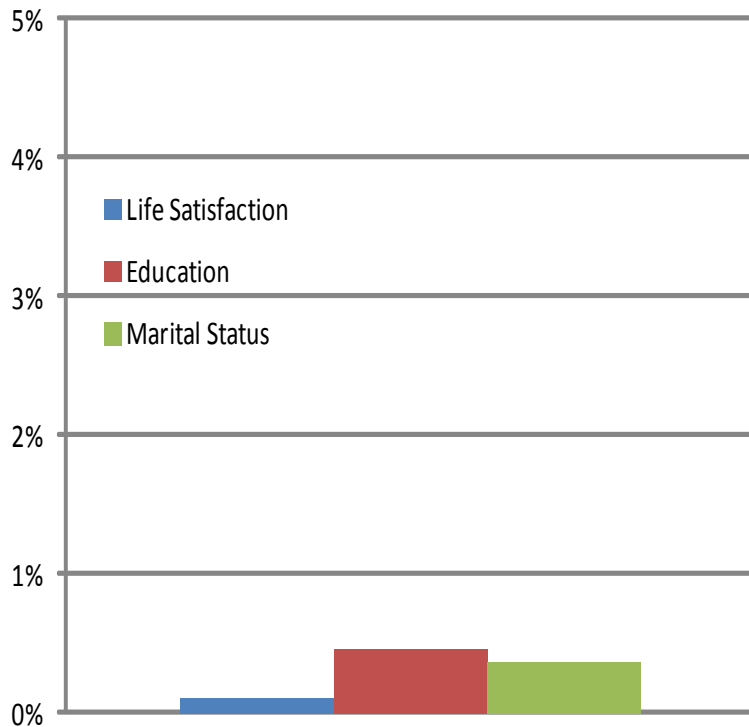
Different criteria to assess statistical properties of SWB measures

- Reliability, i.e. does the measure produce the same results when carried out under the same circumstances, assessed through
 - Inter-items correlations (do different items agree with one another?)
 - test-retest correlations (do people answer in the same way question on life-evaluation asked at different moments?)
- Validity
 - Face validity (does the question has an intuitive relation with the concept?)
 - Convergent validity (does the measure correlate with other proxies of the same concept?)
 - Construct validity (does the measure performs in the way that theory and common sense would predict?)

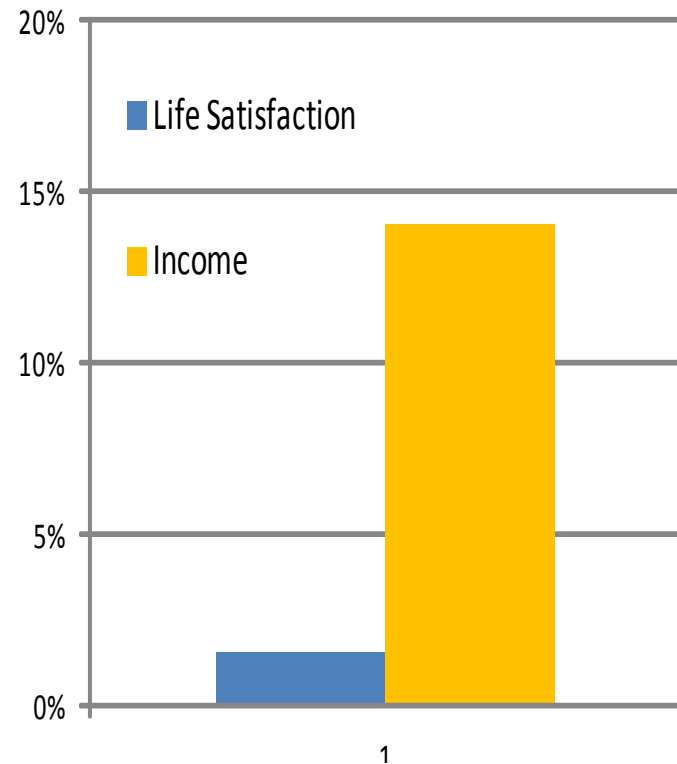
B. Measurement issues (4)

- Face validity: Refusal to answer for life evaluations questions

Gallup World Poll, waves 1-5



World values Survey, 1998-2001



B. Measurement issues (5)

➤ Convergent validity

- how do SWB ratings by respondents compare to those from friends, families, interviewers?
- How do SWB self-assessments are reflected in behaviours? (stress hormone, cortisol in bloodstream, neural activity in different parts of the brain, intentions to quit one's job or suicidal ideation, genuine/fake smiles)

Duchennes smiles



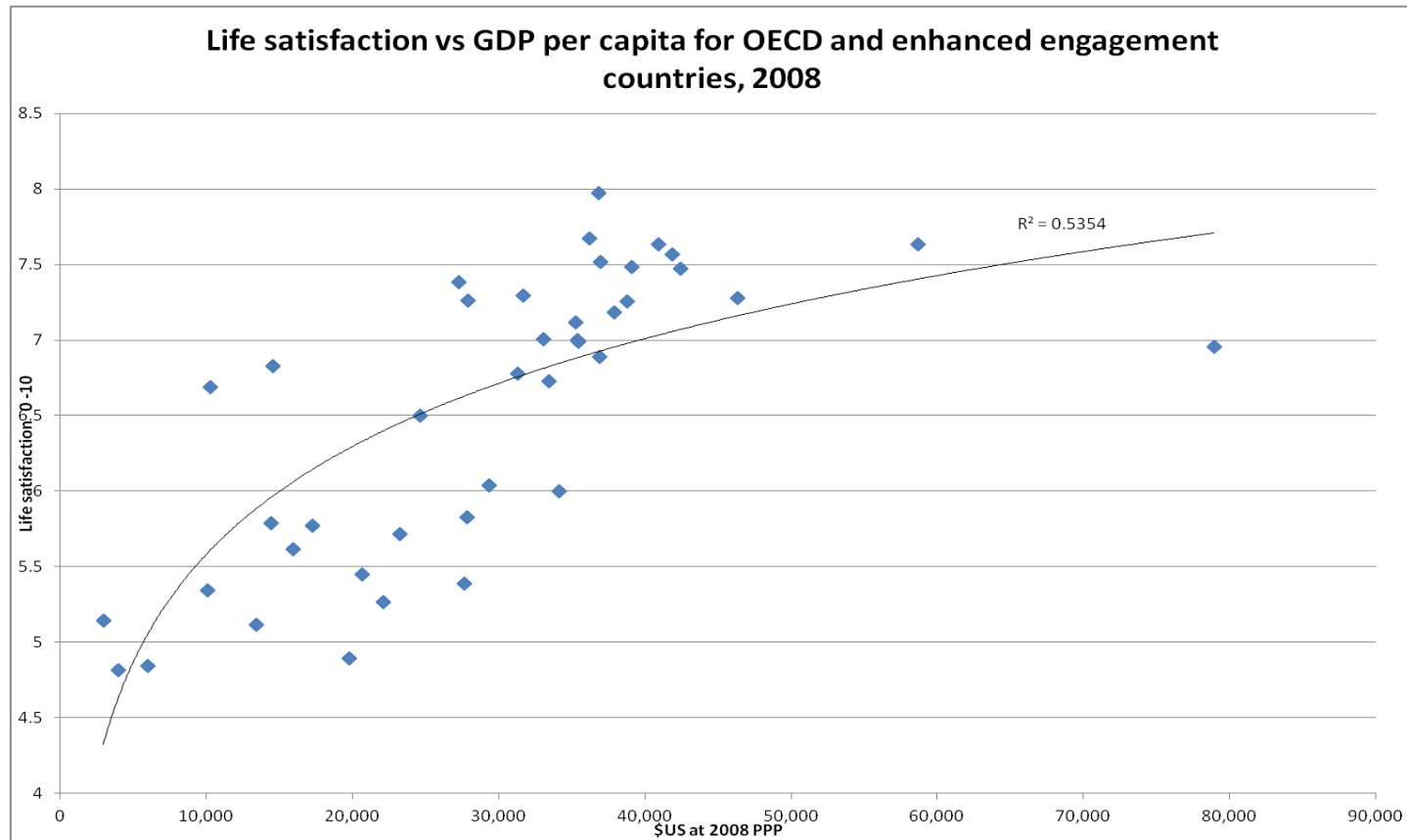
PAN AM smiles



B. Measurement issues (6)

- Construct validity: do SWB measures correlate with some of their most obvious determinants?

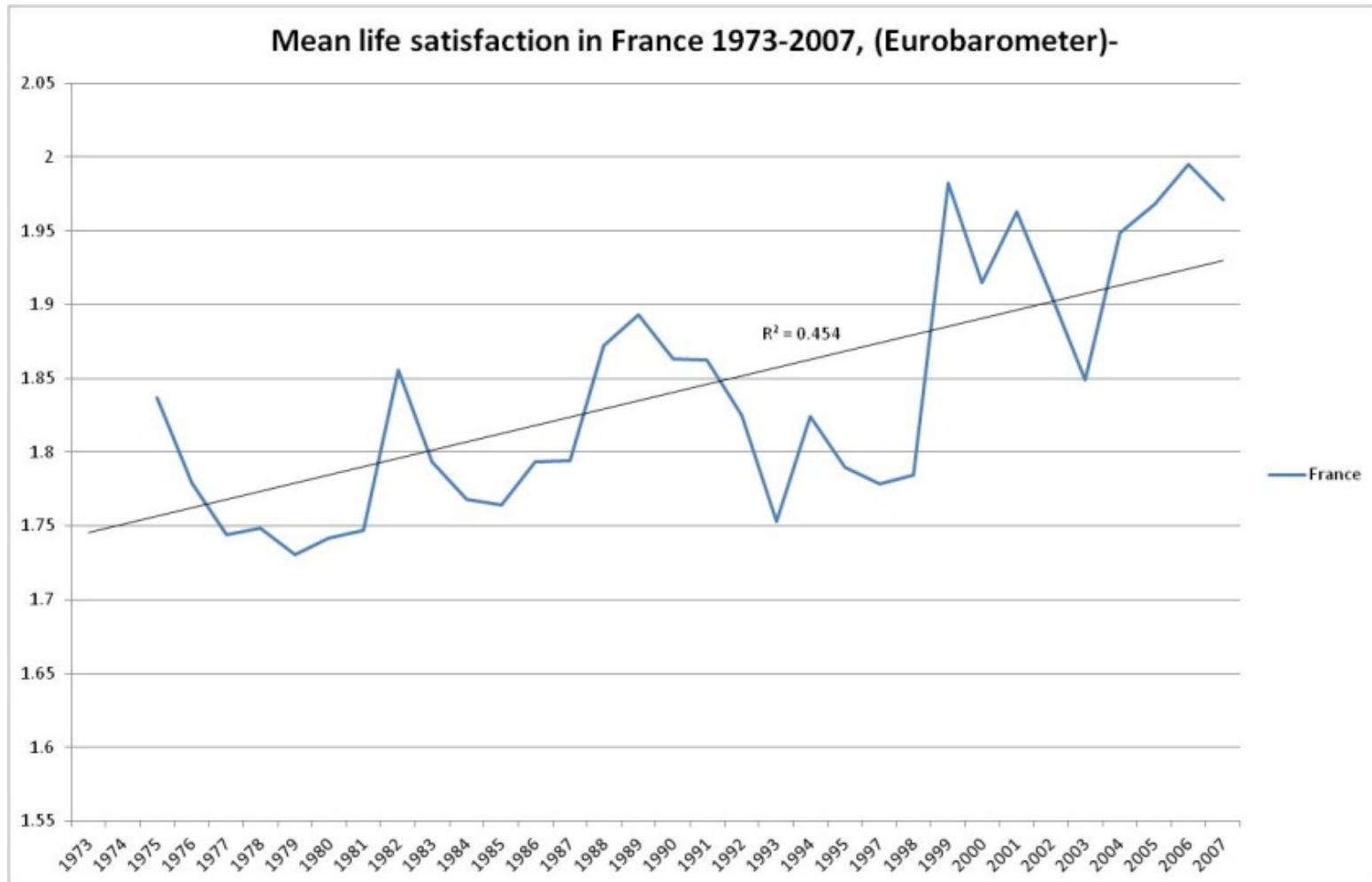
Life satisfaction vs GDP per capita across the world (Gallup World Poll)



**Overall,
strong
evidence of
validity of
SWB
measures**

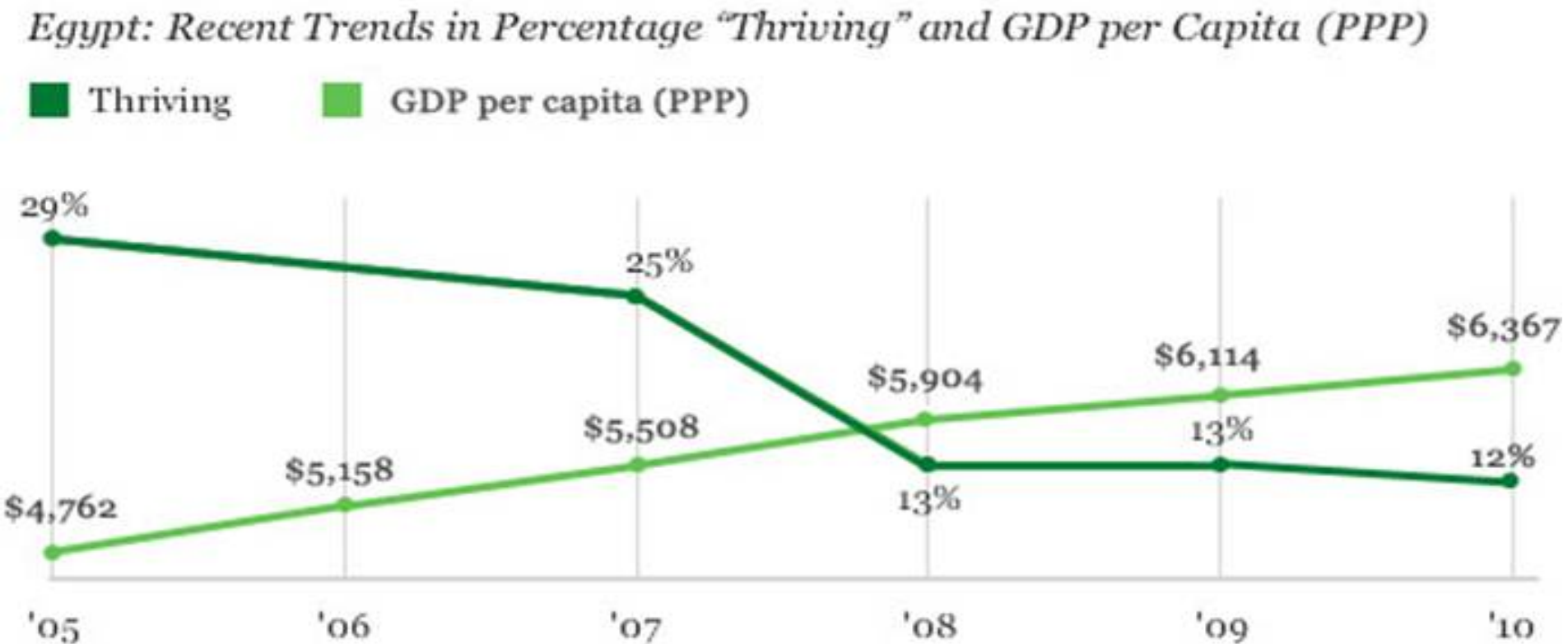
B. Measurement issues (7)

- But also measurement problems:
noisy data needs large sample size and frequent measurement



C. Using SWB to complement other measures

- Arab Spring



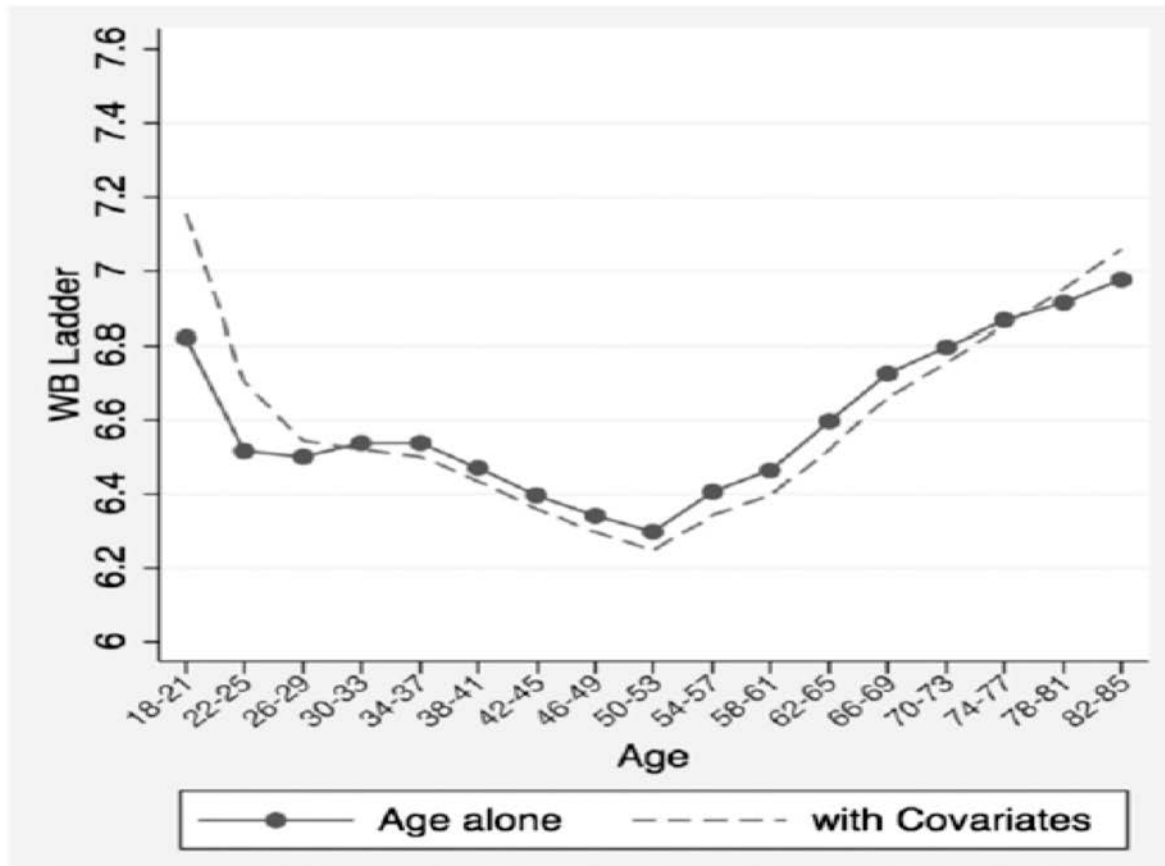
2005-2010

GDP per capita (ppp) estimates are from the International Monetary Fund's World Economic Outlook database.

GALLUP

C. Using SWB to complement other measures (2)

- Ageing and SWB



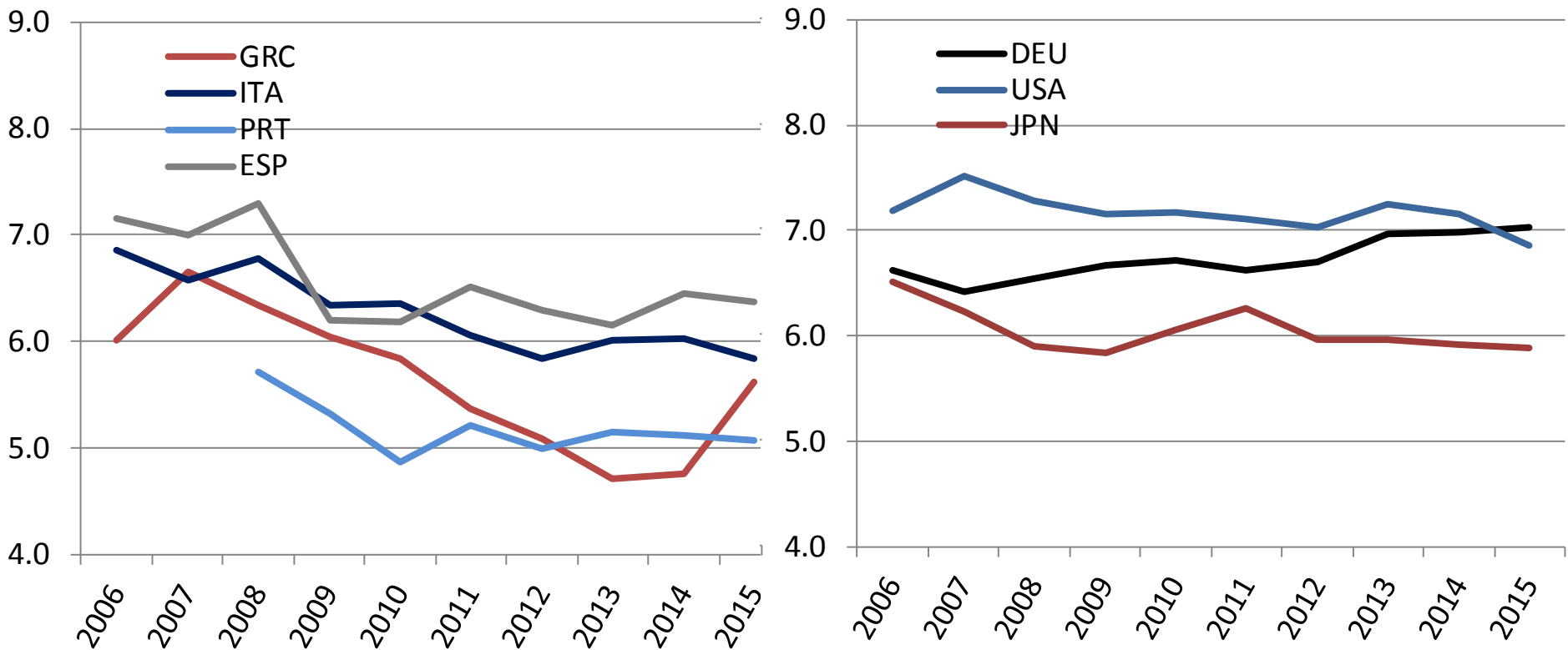
- U-shaped, holds for different birth cohorts and when controlling for covariates
- Holds in rich countries but not in poor ones
- Holds for LE but some differences for affect data
- Holds despite lower income, paid work, and worse health conditions as people age (shift in life priorities as people age?)

Fig. 1. Global WB: ladder. Mean (unadjusted and adjusted) plotted by 4-year age groups, where the connected line represents unadjusted data and dashed lines represent data adjusted for four covariates.

C. Using SWB to complement other measures (3)

- Assessing the costs of economic crisis

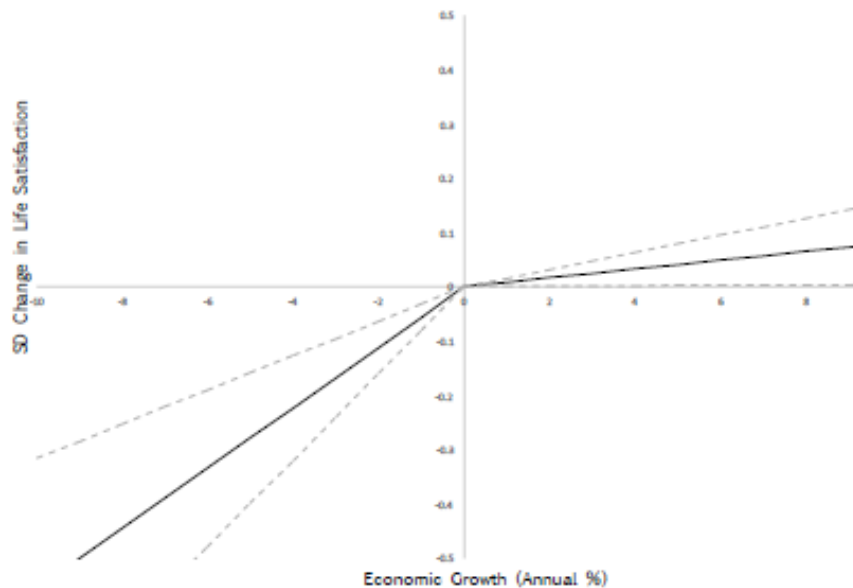
Changes in life satisfaction following the 2008 financial crisis



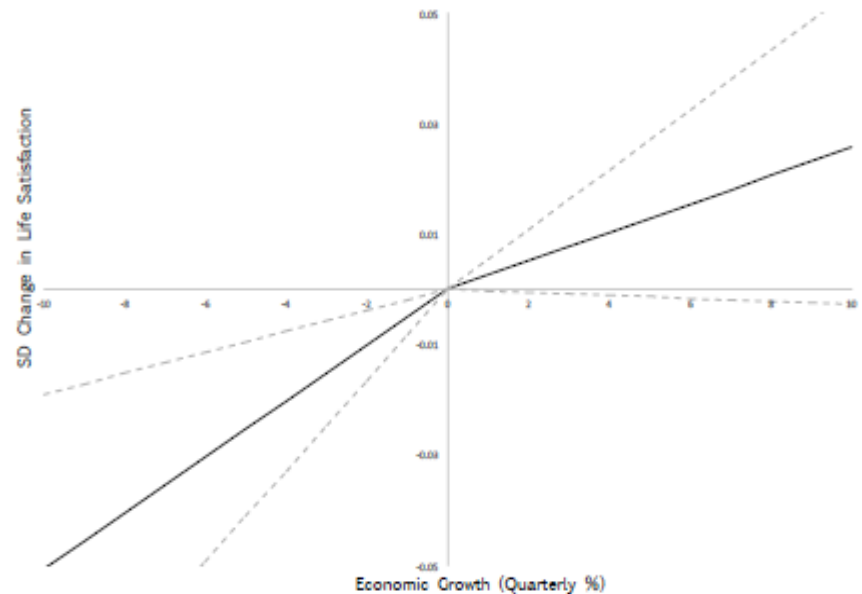
C. Using SWB to complement other measures (4)

- SWB cost of recessions exceeds that of recoveries

(a) Gallup World Poll



(b) Eurobarometer



De Neve et al. (2015)

- Measures of life satisfaction (and affect) are more than twice as sensitive to negative GDP growth than to positive growth (i.e. 'recessions are bad' much more than 'recoveries are good')
- Negative effect of recessions remains even after controlling for 'non-pecuniary' costs of unemployment

C. Using SWB to complement other measures (5)

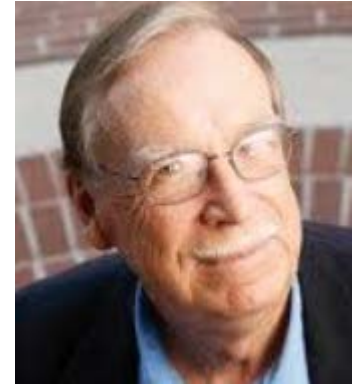
- Predicting electoral results (G. Ward, 2015)
 - Retrospective voting: voters face high costs to collect information to evaluate incumbent government and have low probability that their vote will be decisive.. But
 - *“Voters have a hard bit of data : they know what their life has been during the incumbent administration”*
 - Empirical results (15 EU countries, 1973-2012)
 - Higher avg. SWB in period preceding election increases voting share of incumbent government (one STD rise in SWB increases the voting share by ~8 points)
 - Effect is robust to inclusion of macro-economic controls and individual-level (demographic and political) factors
 - SWB explains more of variance in voting share of incumbent government than any of 3 macro-economic variables

D. Understanding the drivers of SWB

- Income: Easterlin Paradox (1974)

Three pieces of evidence:

- Within a country, people with higher income report higher SWB, but (paradox)
 - Within a country, gains in average income do not translate in similar gains in SWB
 - Across countries, higher GDP per capita do not translate in higher SWB above some point (World Values Survey)
- Easterlin's paradox refers to evaluative measures of SWB



D. Understanding the drivers of SWB (2)

- Easterlin Paradox: what have we learned since?
 - Income gradient in SWB within-country largely confirmed (but evidence mainly based on LE, and income measures in general social surveys limited)
 - Rises in GDP pc and stable SWB also confirmed (but could reflect bounded scale in SWB)
 - Cross-country relation between GDP pc and average life-evaluations is log-linear at the world level (i.e. a given percentage gain in GDP pc translates into the same increase in average life evaluations)
 - Different story for affect: only weak positive relation between positive affect and GDP pc, no relation for negative affect

D. Understanding the drivers of SWB (3)

➤ But many factors beyond income shape life evaluations

Table 1. The Determinants of Subjective Well-being: evidence from existing research

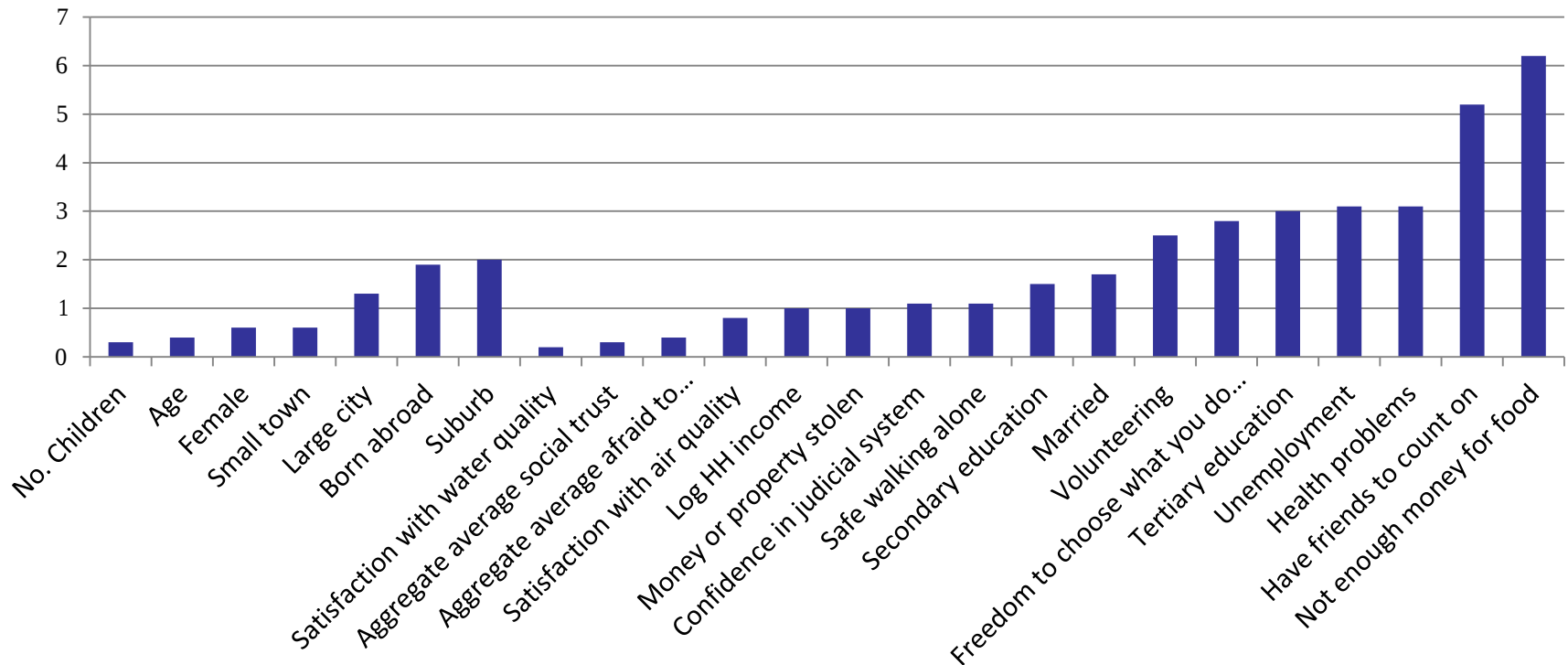
Domain	Author	Effect Size(0-10 scale)
Income and wealth	Stevenson and Wolfers (2008) Sacks, Stevenson and Wolfers (2010) Helliwell and Wang (2011)	0.3 (log HH income, log GDP per capita) 0.4 to 0.5 (log HH income)
Jobs and earnings	Winkelman and Winkemann (1995) Lucas, Clarke, Georgellis, and Diener (2004)	-1 (unemployment) -0.7 (immediate impact of unemployment) -0.2 (ongoing impact of unemployment)
Housing	Oswald, Wahl, Mollenkopf, and Schilling (2003)	+ (satisfaction, amenities) - (renting)
Health status	Lucas (2007)	-0.7 to -0.8 (disability) -0.25 to -1.75 (disability, GSOEP)
Work/life balance	Kahneman and Krueger (2006) Frey and Stutzer (2008)	- (time spent commuting on affect) -0.1 to -0.3 (per hour of commuting)
Education and skills	Helliwell (2008) Blanchflower and Oswald (2011)	0.1/ 0.3 (tertiary education) 0.8/0.9 (tertiary education)
Social connections	Kahneman and Krueger (2006) Helliwell and Wang (2011)	+ (time with friends, affect) 0.4/0.5 (friends to count on) 0.1/0.15 (helped stranger)
Civic engagement and governance	Frey and Stutzer (2000) Helliwell (2008)	0.1 (democratic rights) -1.4 (average aggregate perception of corruption) -0.3 (individual perception of corruption)
Environmental quality	Weinhold (2008) Silva, Johnstone and De Keulenaer (2012)	-0.15 /-0.25 (complaints about noise) - (PM10 concentrations)
Personal security	-	-

Note: actual effect sizes have been given where the coefficient is reported on a 0 to 10 or 1 to 10 scale. In all other cases only the direction of the effect is cited (either + or -)

D. Understanding the drivers of SWB (4)

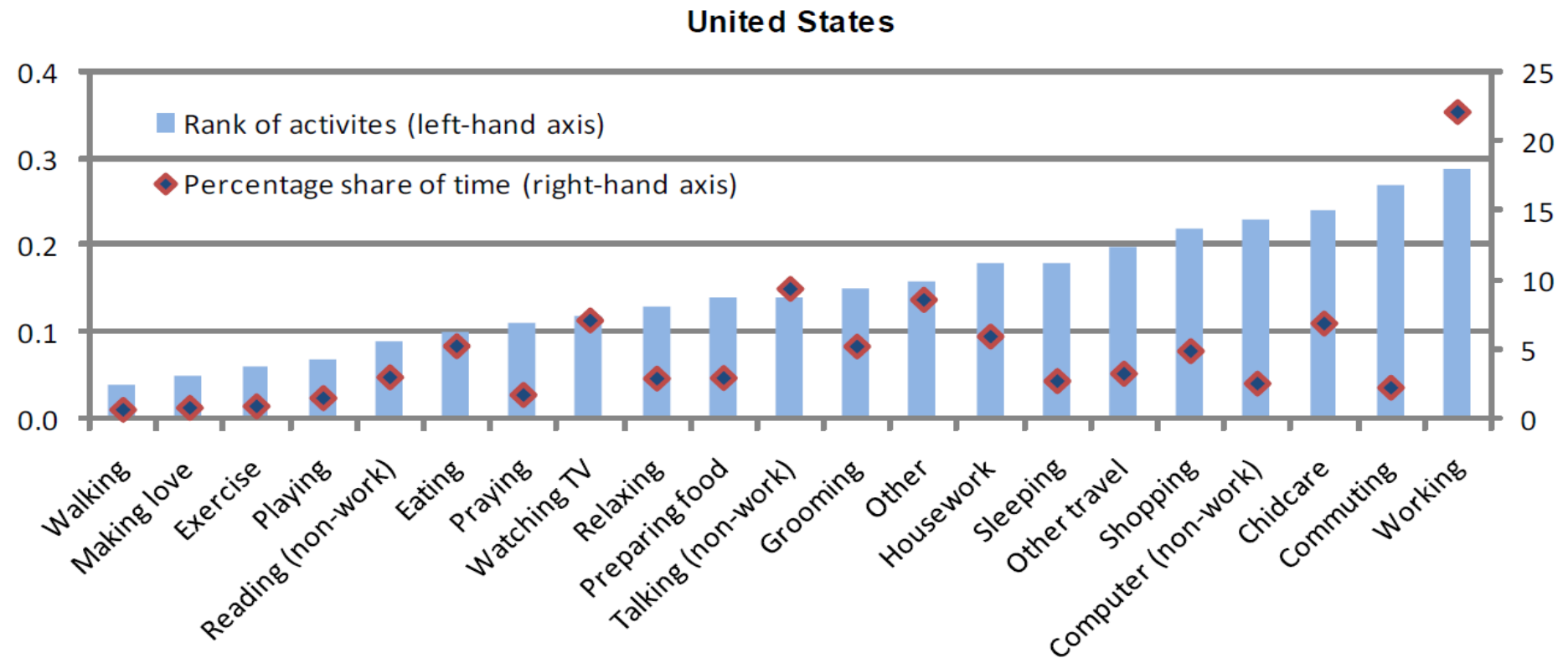
➤ But income effect dominated by that of many other var. (2)

Relative effect sizes of different variables on LE



D. Understanding the drivers of SWB (5)

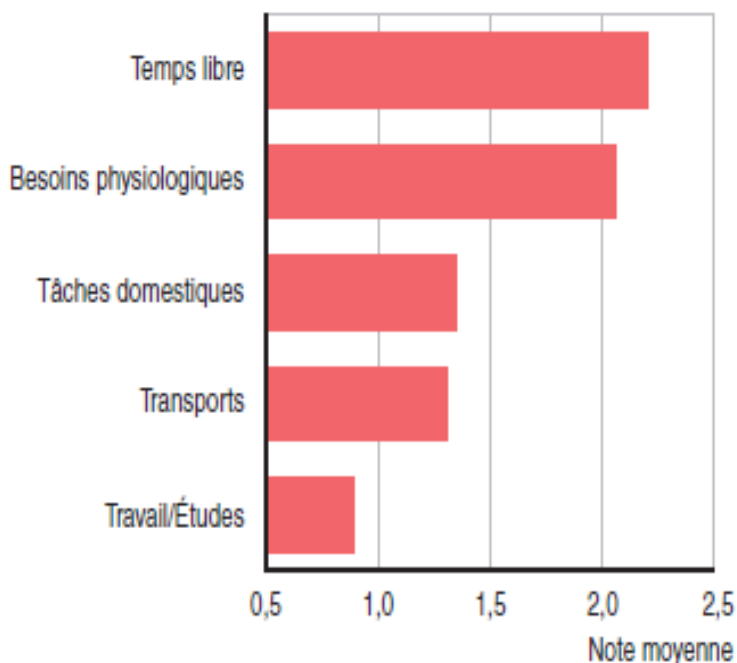
➤ Net affect by type of activity in the US..



D. Understanding the drivers of SWB (6)

➤ .. and France (time use)

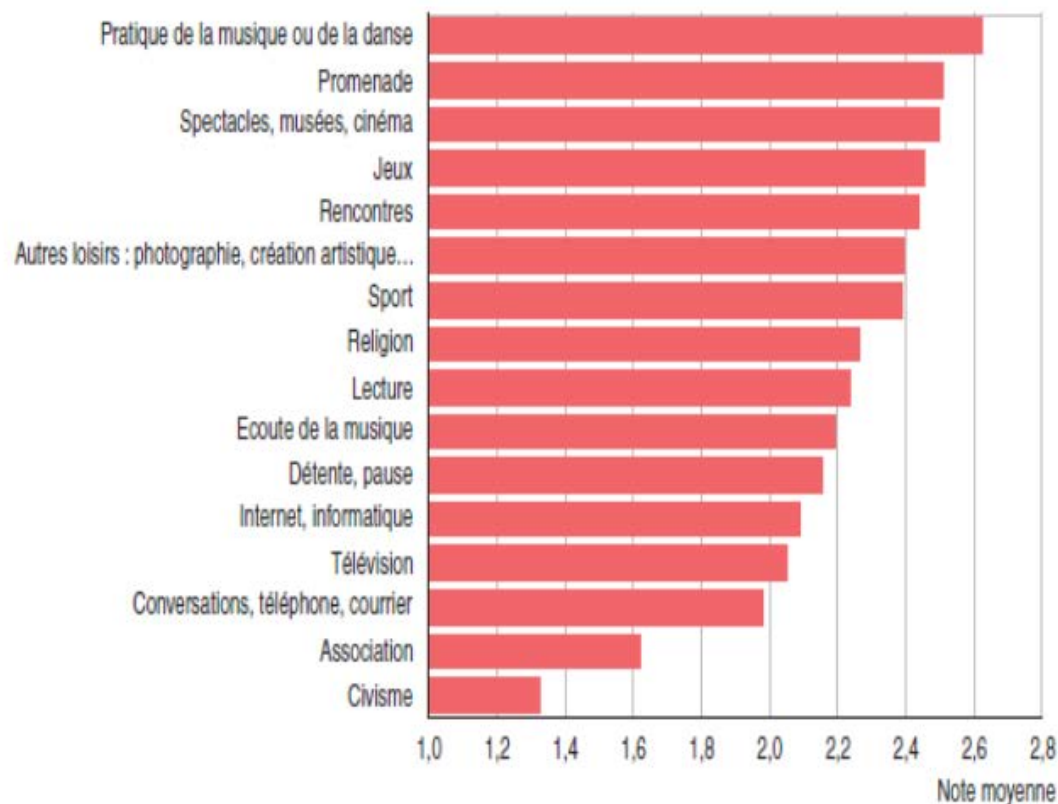
① Les moments de temps libre sont les plus agréables



Lecture : la note moyenne des activités du temps libre est de + 2,2 sur l'échelle des moments agréables (de -3 à + 3).

Source : Insee, enquête Emploi du temps 2010.

② Appréciation des différentes activités du temps libre



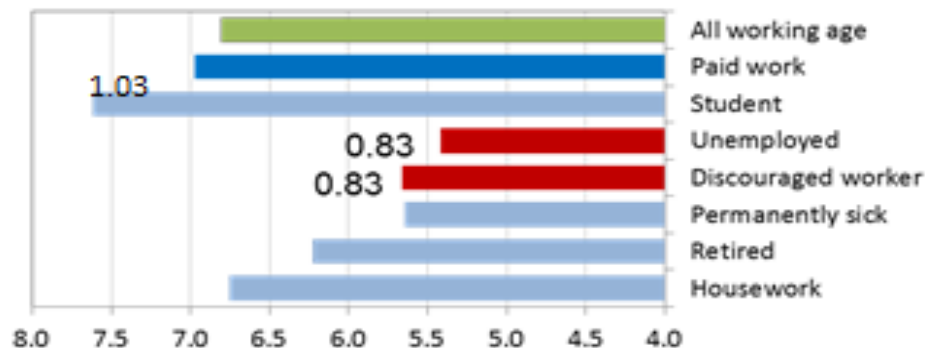
Lecture : la note moyenne associée aux activités de pratique de la musique ou de la danse est de + 2,6.

Source : Insee, enquête Emploi du temps 2010.

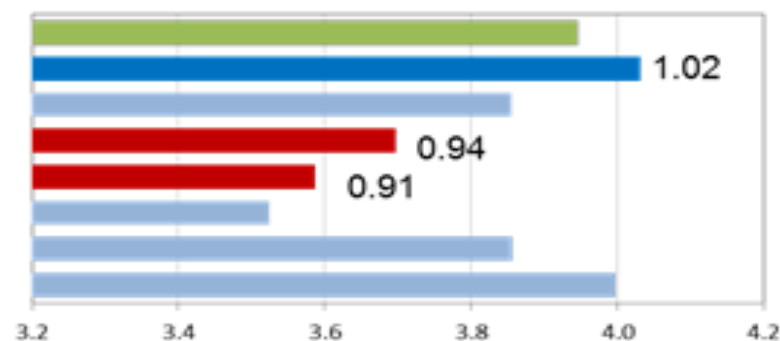
D. Understanding the drivers of SWB (7)

➤ Labour market status

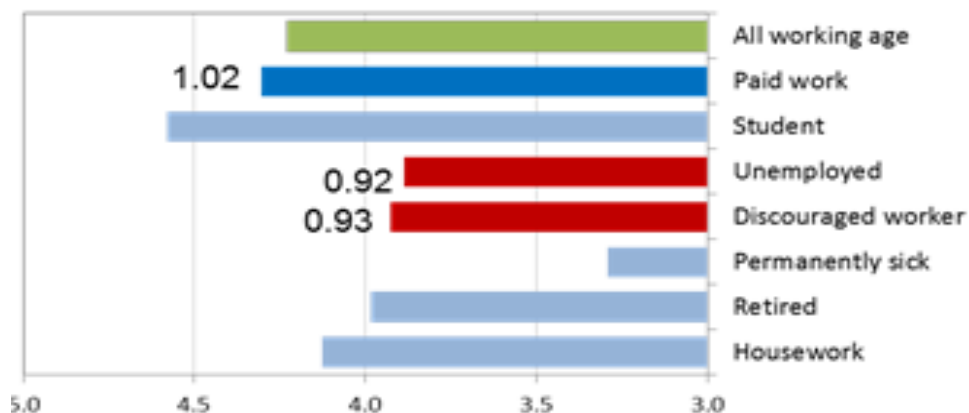
Life satisfaction (2010)



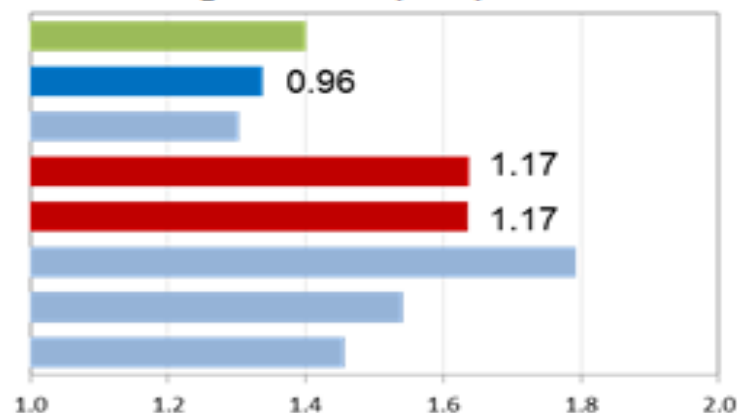
Eudaimonia (2006)



Positive affect (2010)



Negative affect (2010)



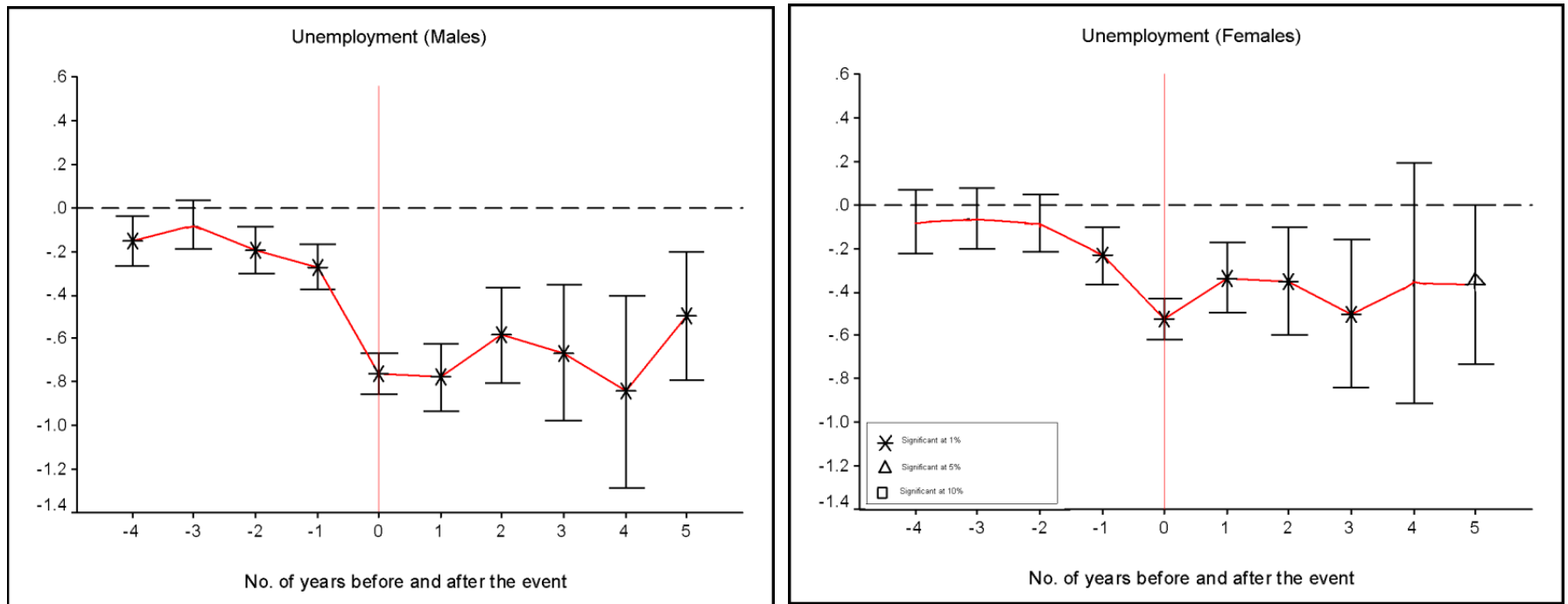
Data source: European Social Survey

E. Objections: set-points and adaptation

- One of earliest objections to using SWB measure as basis for policies is that people may revert to personal set-points based on psychological factors after any type of shock or that they adapt to persistent disadvantage ('Happy poor')
- What is the evidence? We can answer this question through **panel data** that follow the same person over time

E. Objections: set-points (2)

Set-points: adaptation to unemployment



Lucas, R., Clark, A., Georgellis, Y. and Diener, E. (2004), "Unemployment alters the set point of life satisfaction", *Psychological Science*.

E. Objections: set-points (3)

Set-points: adaptation to disability

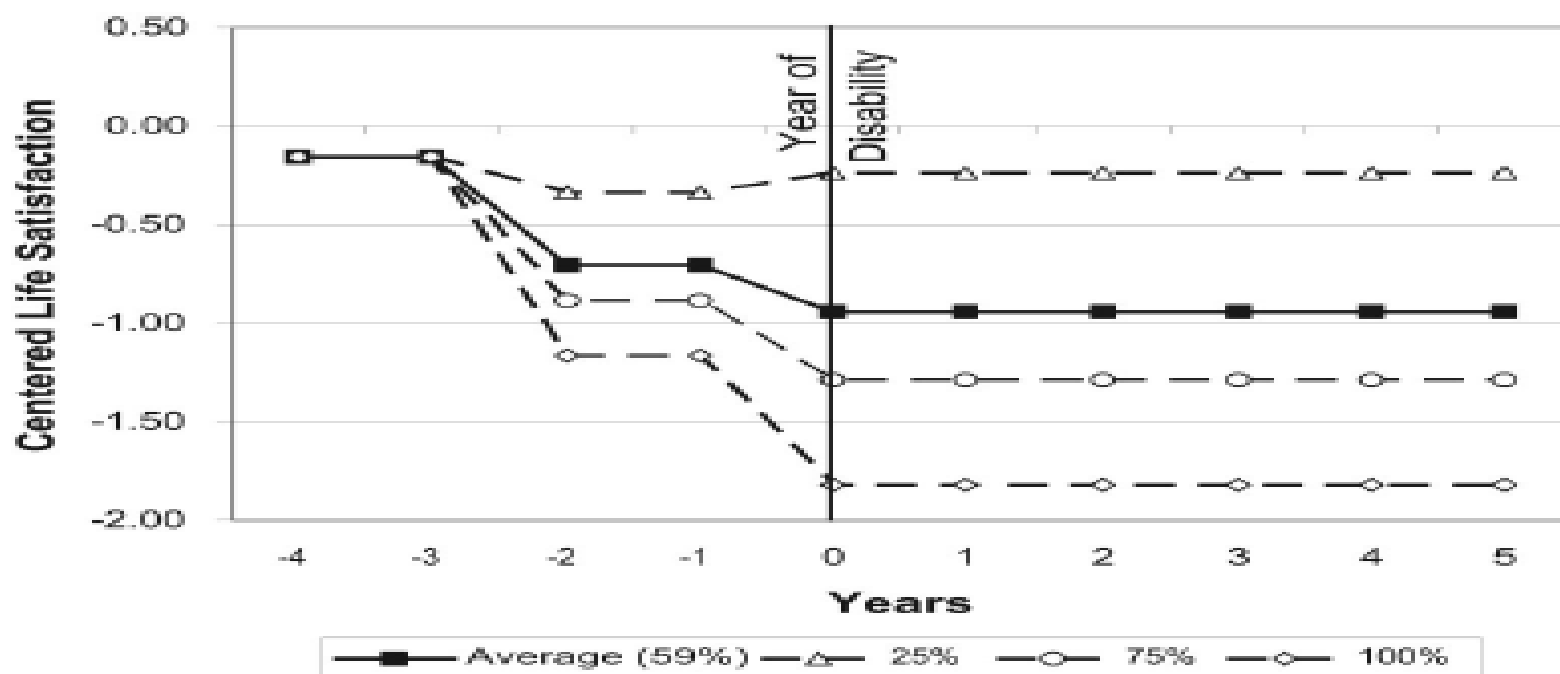
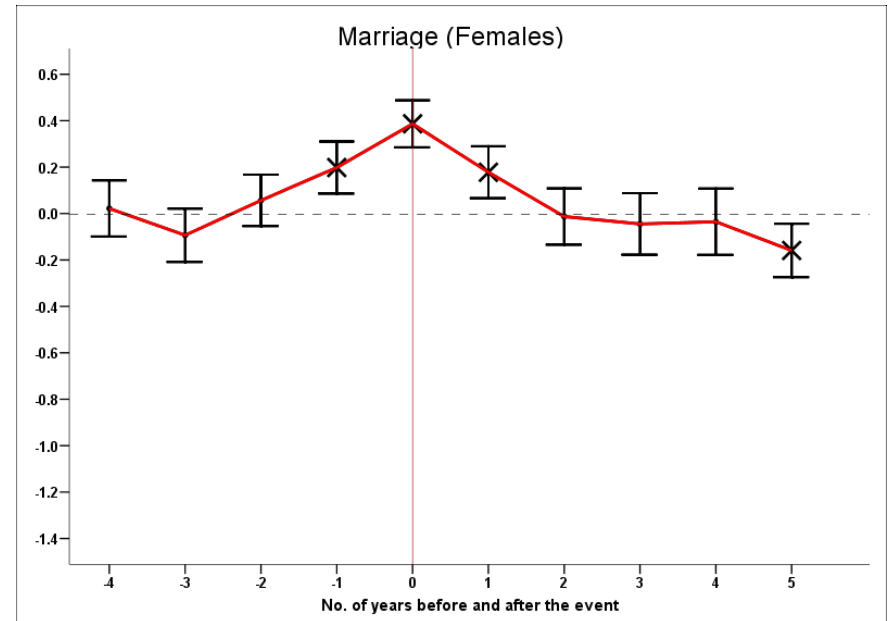
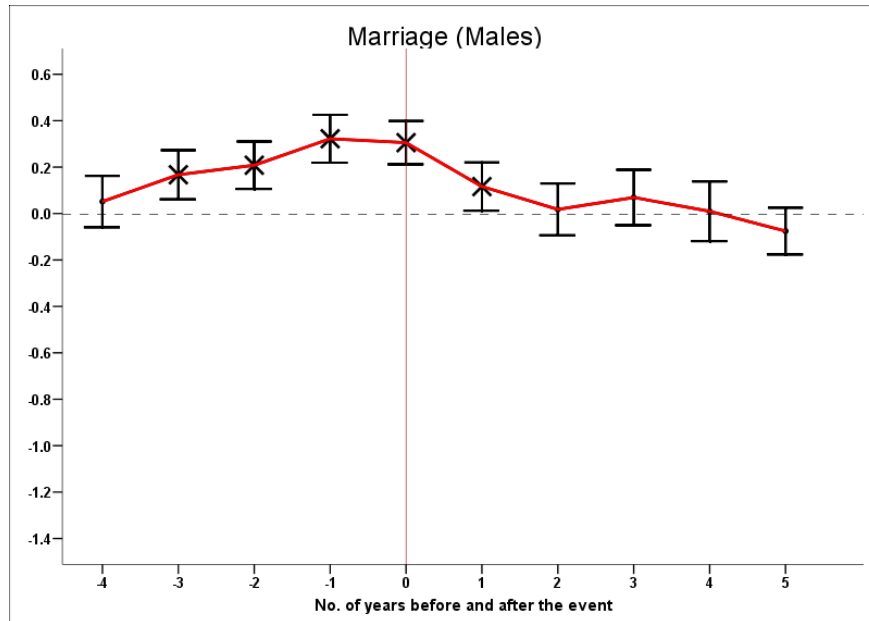


Figure 1. Predicted changes in centered life satisfaction before and after onset of disability in the German Socio-Economic Panel Study sample. Different lines reflect varying amounts of disability.

E. Objections: set-points (4)

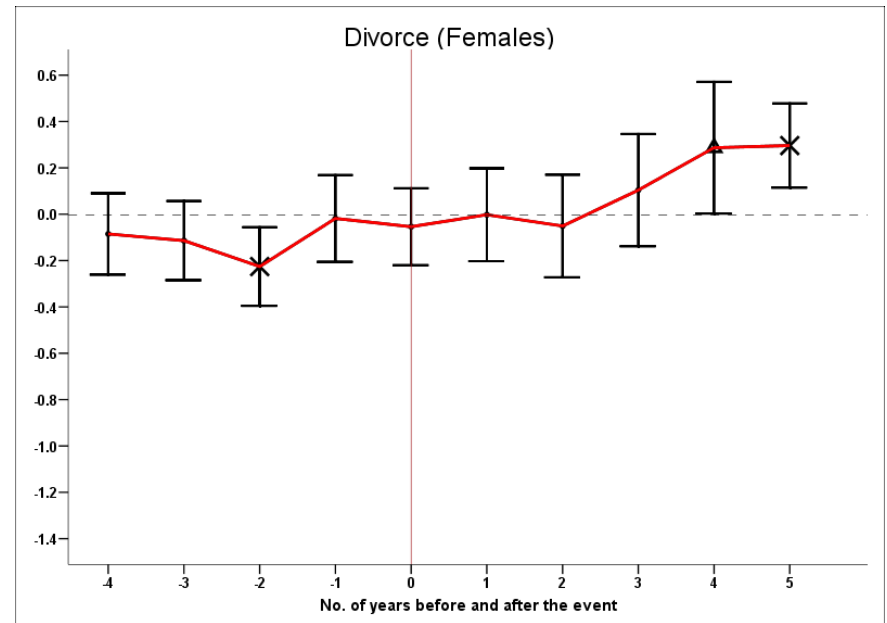
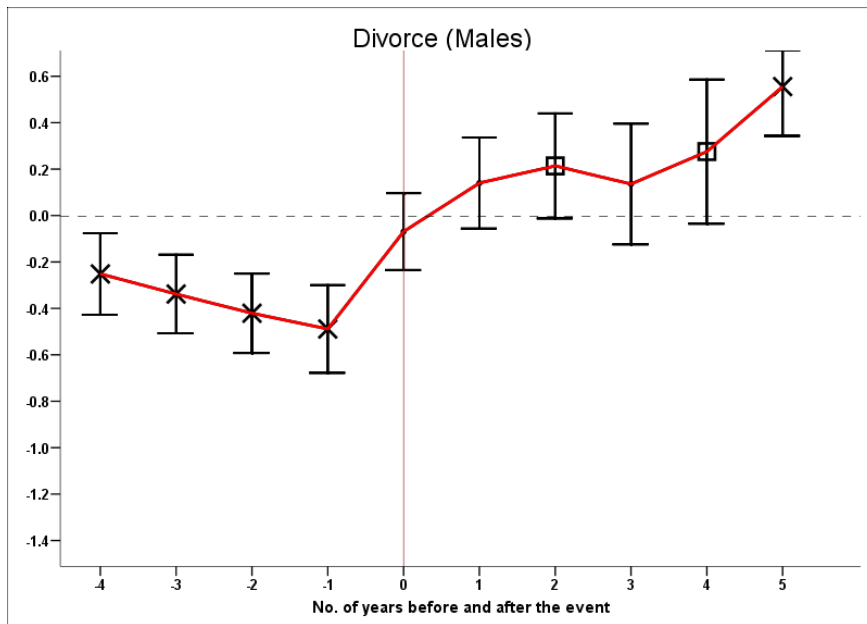
Set-points: adaptation to marriage



Lucas, R., Clark, A., Georgellis, Y. and Diener, E. (2003), "Reexamining adaptation and the set point model of happiness: Reactions to changes in marital status", *Journal of Personality and Social Psychology*.

E. Objections: set-points (5)

Set-points: adaptation to divorce



Lucas, R., Clark, A., Georgellis, Y. and Diener, E. (2003), "Reexamining adaptation and the set point model of happiness: Reactions to changes in marital status", *Journal of Personality and Social Psychology*.

E. Objections: cultural effects (6)

- Another long-standing argument has been that people's answers to SWB questions mainly reflect 'cultural effects' unrelated to objective circumstances
- Two possible effects of 'culture'
 - differences in response styles that reduce data comparability
 - more substantive culture-related factors
- Evidence in OECD Working Paper: Exton and Smith, *"Comparing Happiness Across Countries: Does Culture Matter?"*

E. Objections: cultural effects (7)

- Unmeasured life circumstances differ systematically between countries as well as people (*e.g.* health, social capital, work-life balance, ...)
- Cultural impact (*e.g.* differences in values and goals; differences in the way circumstances are appraised)
- Cultural bias (*e.g.* in expression of emotion, language and translation issues, response scale use...)

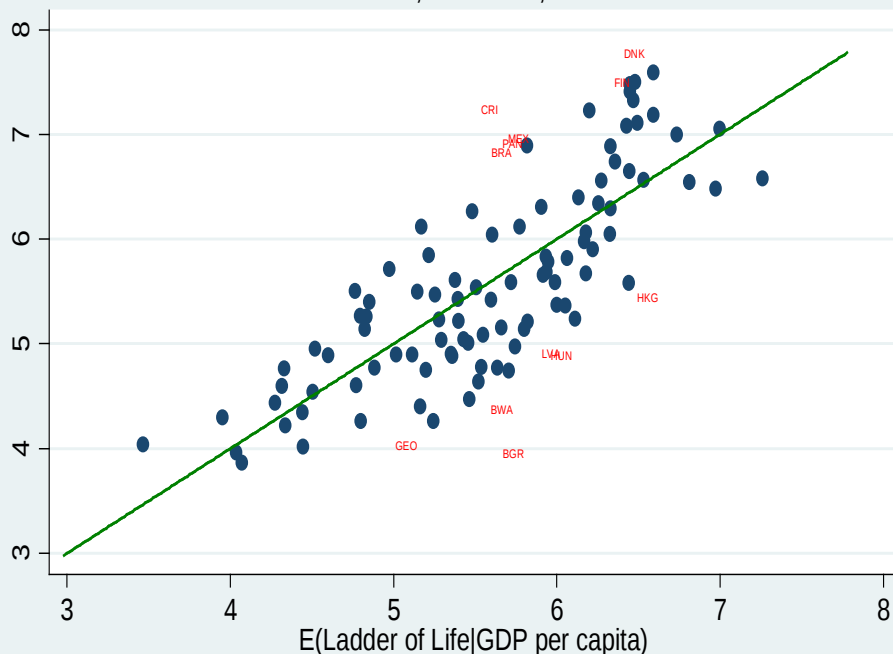
→ As a first step, we need methods for separating the impact of life circumstances from the impact of culture

E. Objections: cultural effects (7)

Actual life satisfaction compared to 'explained' life satisfaction (GWP)

Conditional on incomes

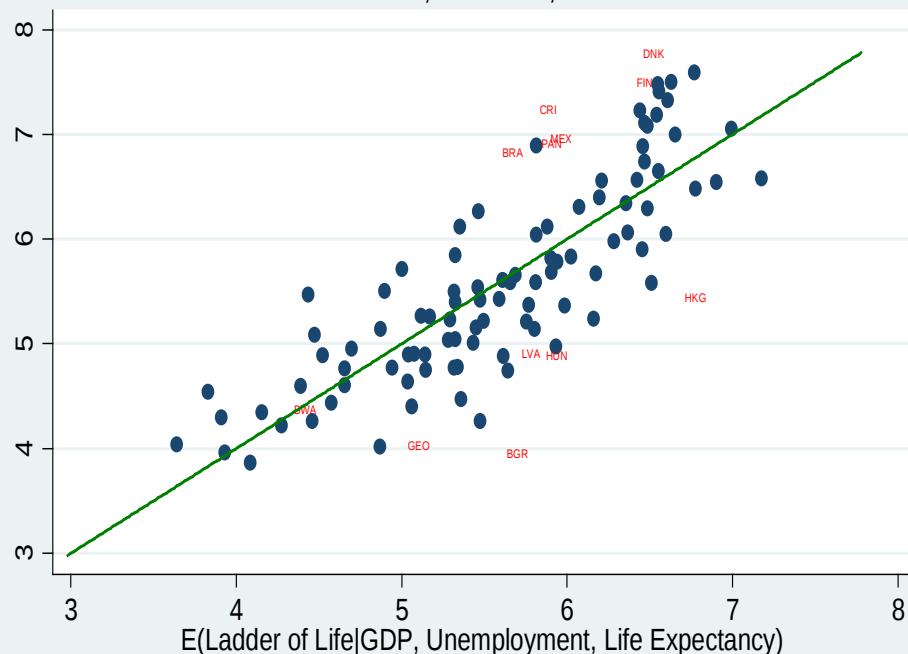
Coef=1.000; se=0.070; $R^2=0.561$



● Ladder of Life — Fitted line
Countries with high residuals are marked by red labels

conditional on incomes, UNR, life expectancy

Coef=1.000; se=0.068; $R^2=0.626$



● Ladder of Life — Fitted line
Red labels inherited are high residuals from previous regression

- Much cross-country variation in life satisfaction is explained by differences in objective circumstances (2/3 of total)
- But even after controlling for some of the most obvious determinants, a significant share of the variance in life satisfaction across countries is unexplained (1/3)

E. Objections: cultural effects (8)

- Three strategies to identify the impact of culture on SWB, all based on idea of looking at whether the following contribute to explaining cross-country variance in SWB:
 1. Specific cultural values: Welzen & Inglehart 'survival/self-expression' and 'traditional/emancipative' values (WVS / ESS). Substantive effect
 2. Differences between country- of-origin and country-of-residence: SWB of migrants (e.g. individual SWB as function of individual conditions, country of living effects, country of birth effects)
 3. Cultural appraisal styles: do people in different societies report differently their own state of mind (e.g. own income feelings rel. to GDP pc; feelings of economic conditions rel. to GDP growth; feelings on free pol. Freedom, rel. WB measure of 'voice and accountability'). Cultural bias
- Looking across these strategies (all of which provide upper limit for the potential impact of culture) we can get some idea of potential impact of culture

E. Objections: cultural effects (8)

- Column 2 shows estimates of the share of the ‘residual’ variance explained by each of the three methods; Column 3 converts the results to the maximum impact of culture in terms of country-averages of life evaluation on a 0-10 scale
- Bottom-line: overall effects of culture (substantive and response styles) on LE are significant but small, i.e. they account for around 1/5 of unexplained country-variance on LS, or 4% of overall variance, broadly in line with other studies

Method	% of variance in country fixed-effects accounted for	Implied size of effect (scale points on a 0-10 measure)
➤ Secular and emancipative values	44%	1.50
➤ Positive and negative appraisal styles	5.6% to 17%	0.19 – 0.58
➤ Cultural transmission among migrants	18%	0.61

E. Policy uses

- *“Governments cannot make citizens happy; individuals must do this for themselves.*

*But governments can, in many ways, **provide the circumstances** that allow this to occur”*

Diener and Tov (2011)

E. Policy uses

Cost benefit analysis

- important tool that supports government policy decision-making, Involves estimating monetary values for all the possible costs and benefits of public goods and services
 - Needs a method to capture the well-being costs and benefits of things that don't have market prices (e.g. health, social connections, clean environments, personal security...)
- Current methods (contingent valuation) have serious problems
- One option: use life satisfaction data to look at the well-being impact *actually achieved* by these “non-market” factors

E. Policy uses (2)

- Cost benefit analysis: valuation of life events using SWB measures

Event	Valuation (€)
Employment to Unemployment	-27000
Single to married	7000
Married to separated	-13000
Married to divorced	n.s.
Married to widowed	-16000
Health excellent to health fair	-14000
Reduction in risk of terrorism for Paris to level of the rest of France	2500
Noise pollution (HH income of 2000 x month)	-699 x month

- 2011 edition of **UK Treasury Green Book** provides guidance to public agencies on how to implement this method (alongside others)
- Possible problems: mis-measuring income in surveys can lead to implausibly large monetary valuations for some non-market factors
- But problems with the method should be considered alongside the problems of implementing alternative techniques

Source: OECD calculations based on Oswald, Stutzer and Van Praage

E. Policy uses (2)

- Programme evaluations: several programme have included SWB as an outcome indicator to help assess impacts of a programme and its mechanisms
 - Negative impacts of in-work support programme on SWB measures in the UK (Dorsett and Oswald, 2014)
 - Positive impact of family-leave policies on SWB of mothers with children (D'Addio et. al, 2014)
 - Improvements in mental health / SWB in the US *Moving to Opportunity Programme*

Suggested reading

- OECD (2013), *Guidelines on Measuring Subjective Well-Being*, Paris
- Boarini, R. *et al.* (2012), “What Makes for a Better Life?: The Determinants of Subjective Well-Being in OECD Countries – Evidence from the Gallup World Poll”, *OECD Statistics Working Papers*, <http://dx.doi.org/10.1787/5k9b9ltjm937-en>
- Exton, C., C. Smith and D. Vandendriessche (2015), “Comparing Happiness across the World: Does Culture Matter?”, *OECD Statistics Working Papers*, 2015/04, OECD <http://dx.doi.org/10.1787/5jrqpzd9bs2-en>