“My best and my worst times”: biografical anchors to reduce relativity and other biases in felicitometrics.

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Primo Workshop Internazionale AIQUAV
“Exploring and exploiting quality of life complexity (QoLexity): epistemological, methodological and statistical issues” Firenze Sept 9th 2011

A tall order:

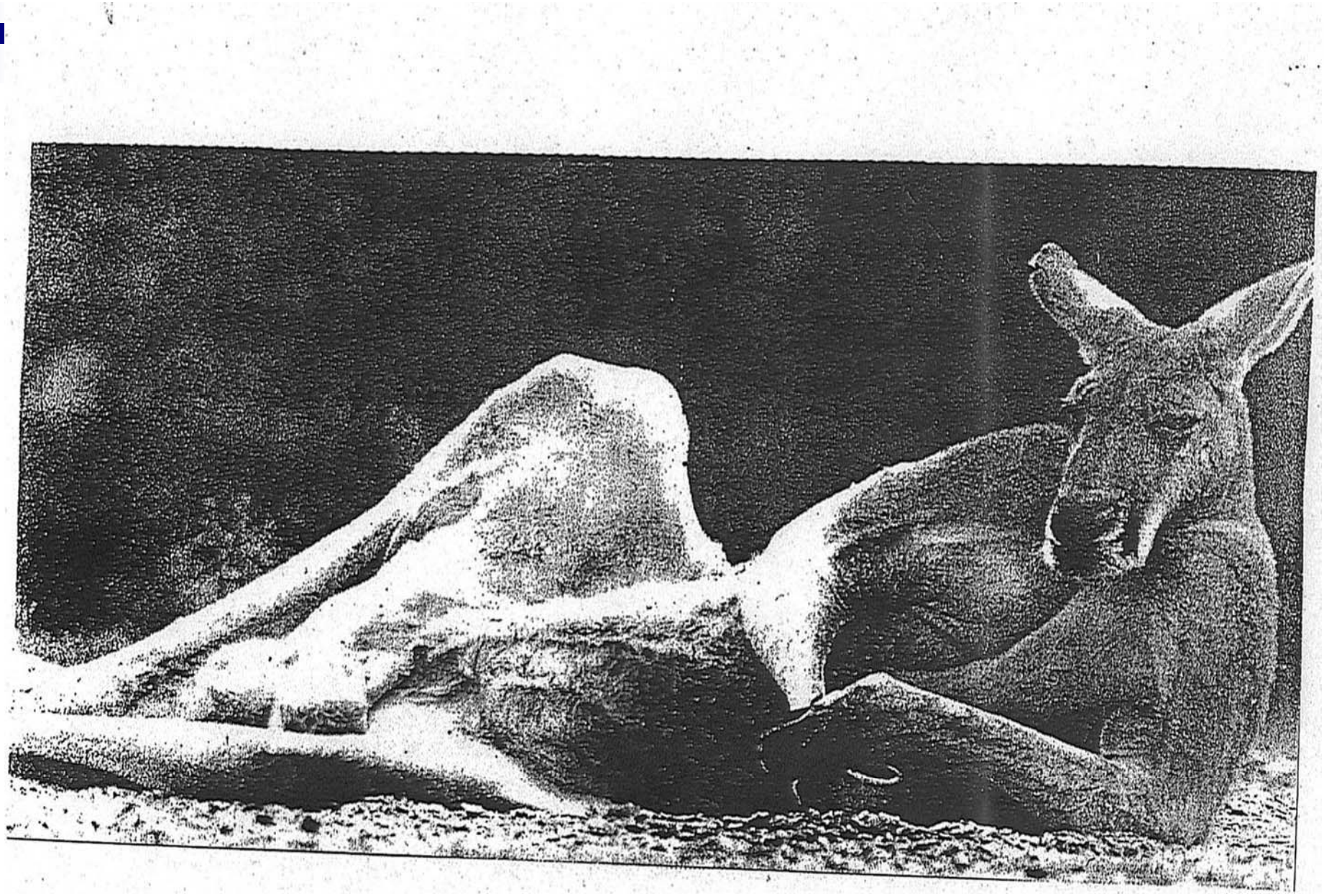
Measuring subjective wellbeing (SWB), the perception of Quality of Life (QOL)

is tantamount to

Quantifying what is qualitative,
Making objective what is subjective

Yet, the question on happiness has great face validity

You know happiness when you see it:

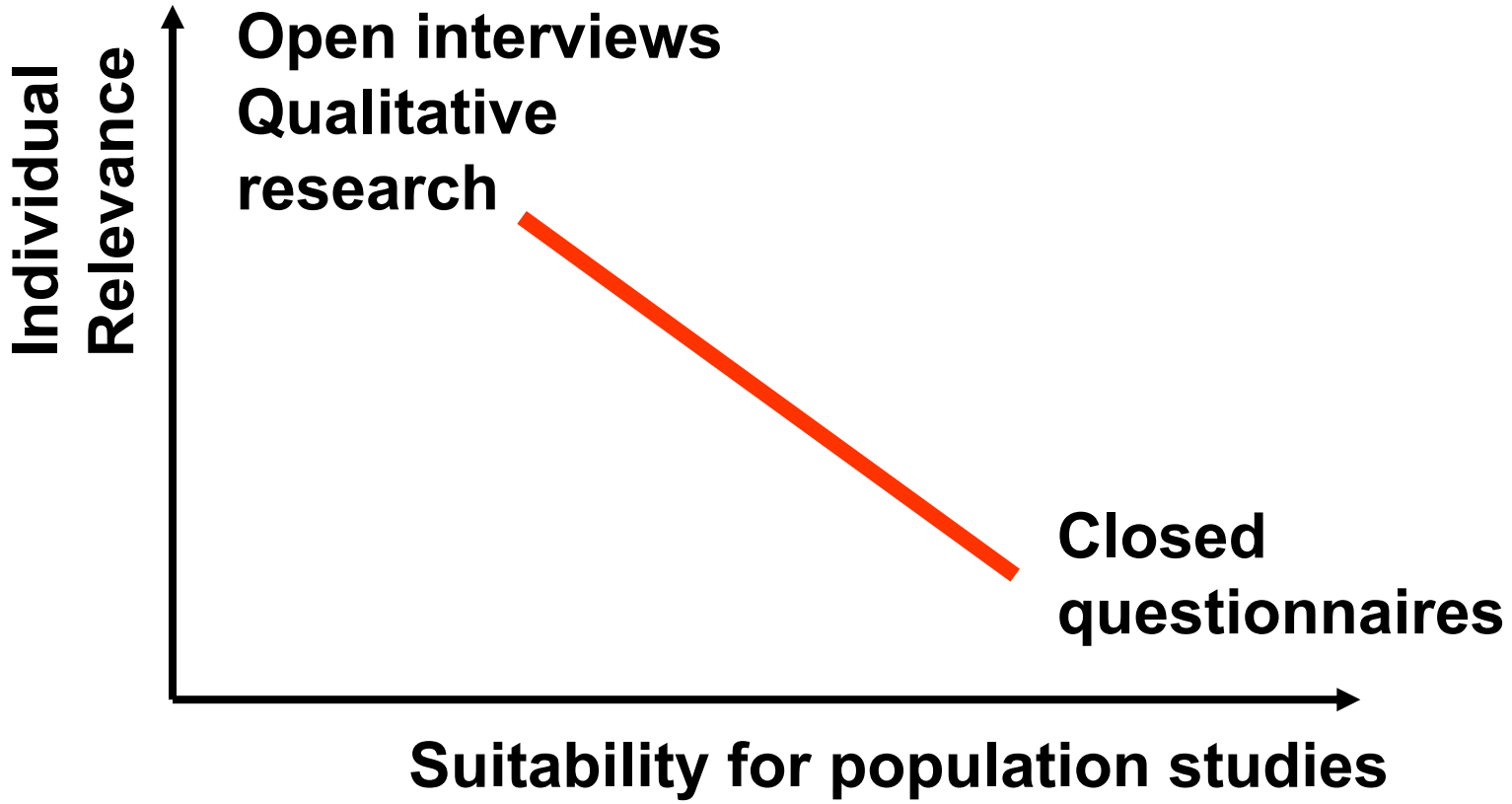


Philosophical views on Quality of Life

- Revealed: religious
- Imposed: totalitarian
- Capabilities (Sen & Nussbaum) or Eudaimonic (Aristotle, Bok): “objective”, universal values
- Utilitarian: happiness = sustainable subjective wellbeing = a utility

  hedonistic ←----------→ eudaimonic?

Felicitometrics: NARRATIVE AND NUMERICAL QOL

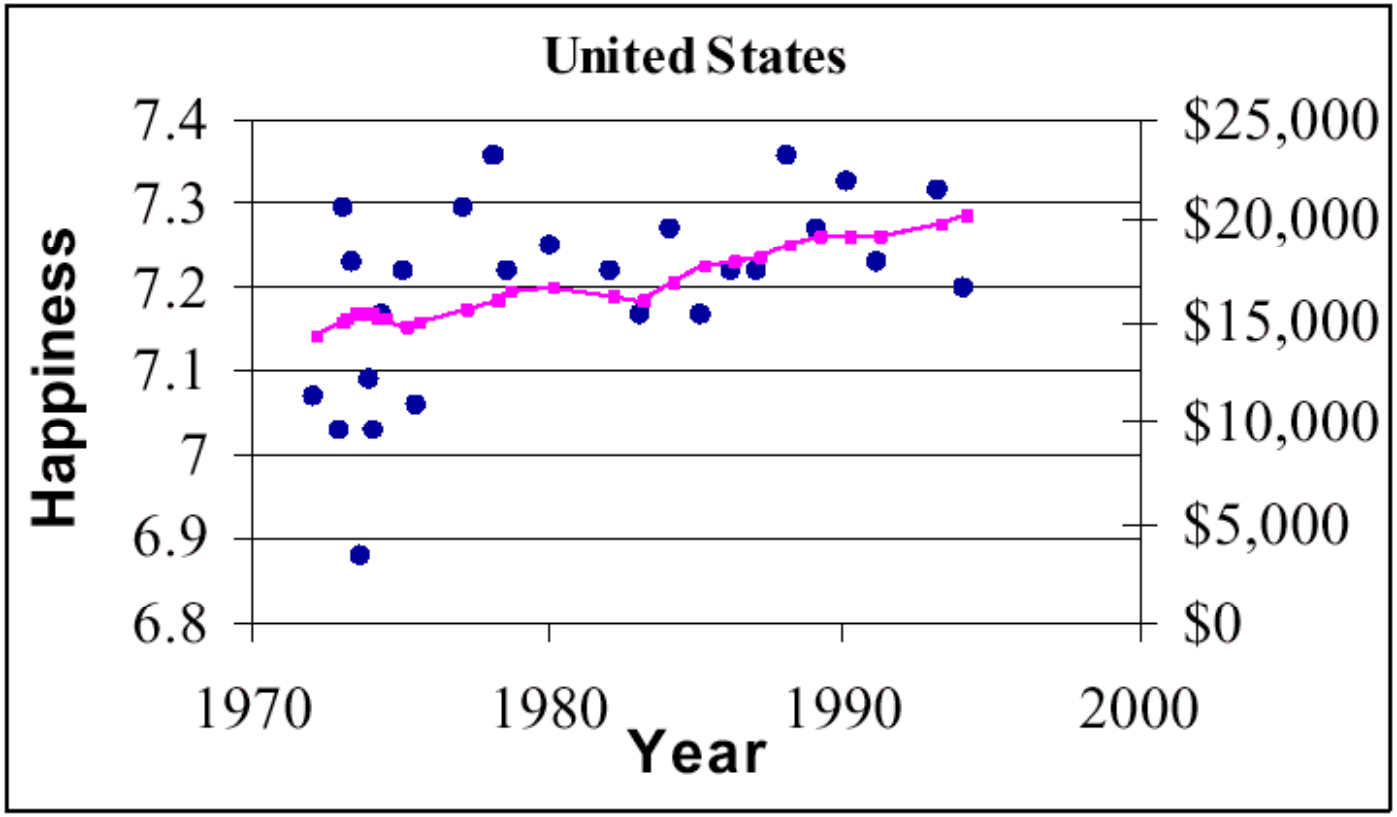


A first major requirement:

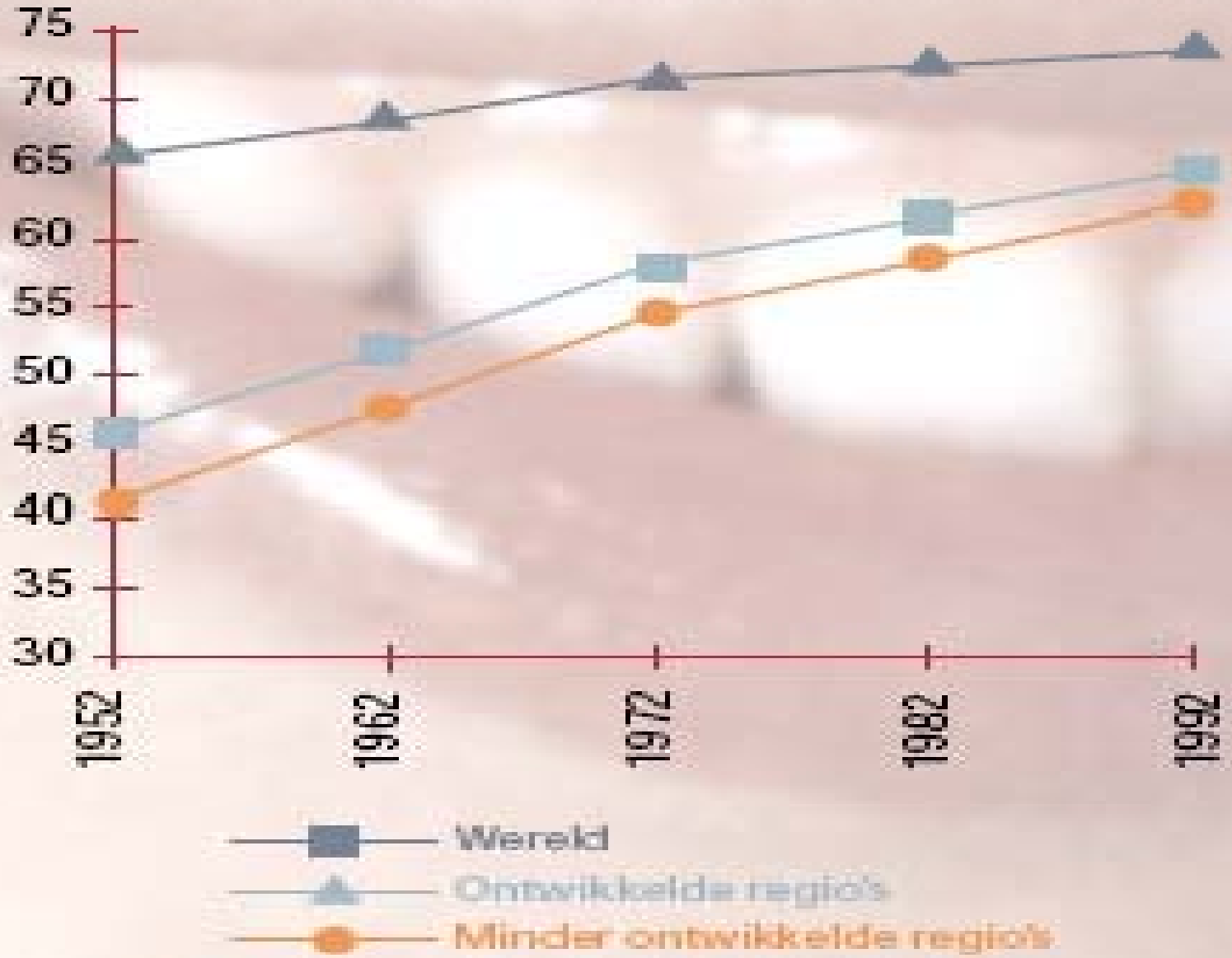
SENSITIVITY, RESPONSIVITY

(= sensitivity to objective change)

Stability over time in spite of objective improvements ("Hedonic treadmill" or "Easterlin paradox")

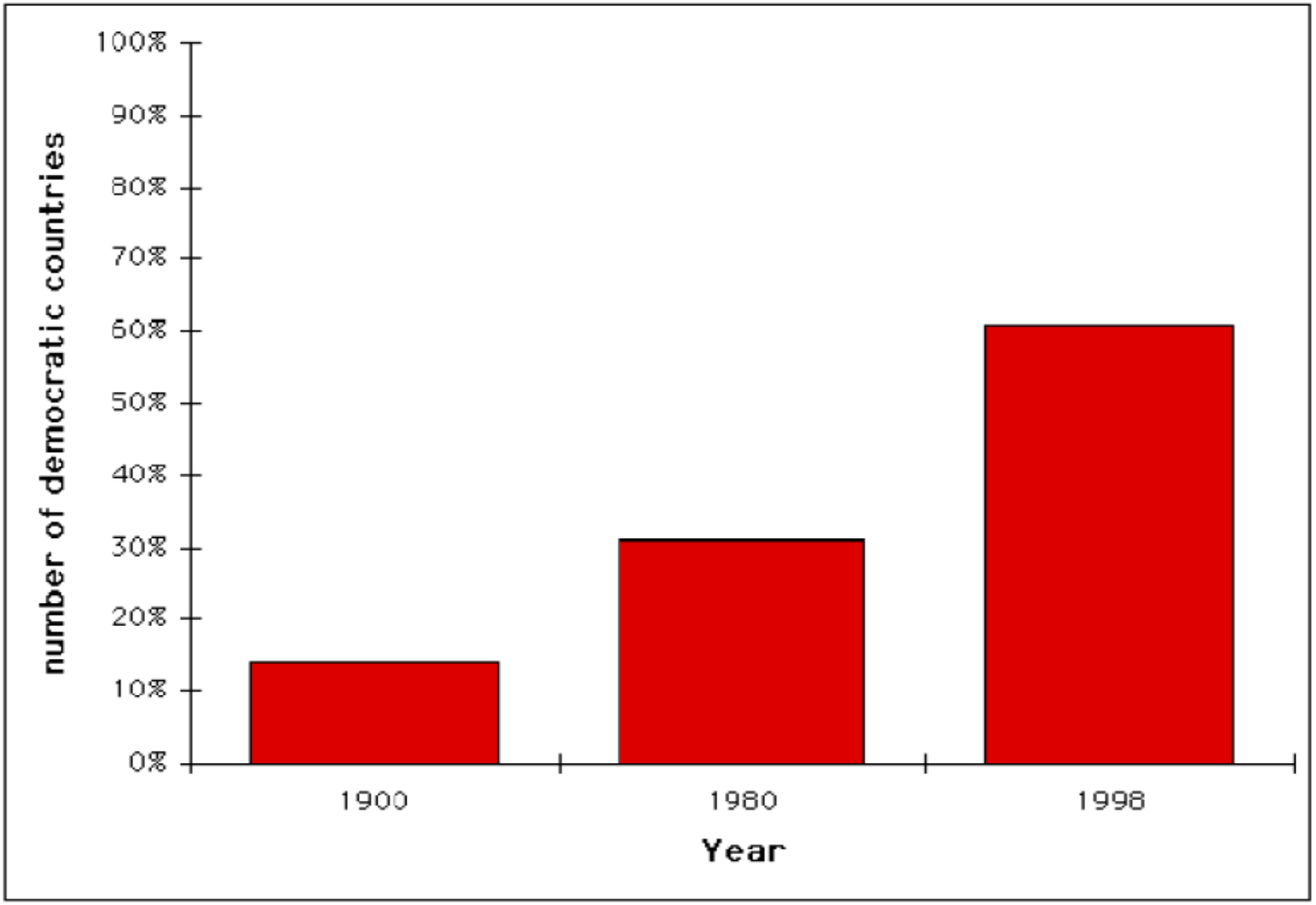


Figuur 2: Wereldwijde evolutie van de levensverwachting.



Bron: Heylighen F, Bernheim J. Global Progress I: empirical evidence for increasing quality of life. Journal of Happiness Studies 2000;1:323-49.

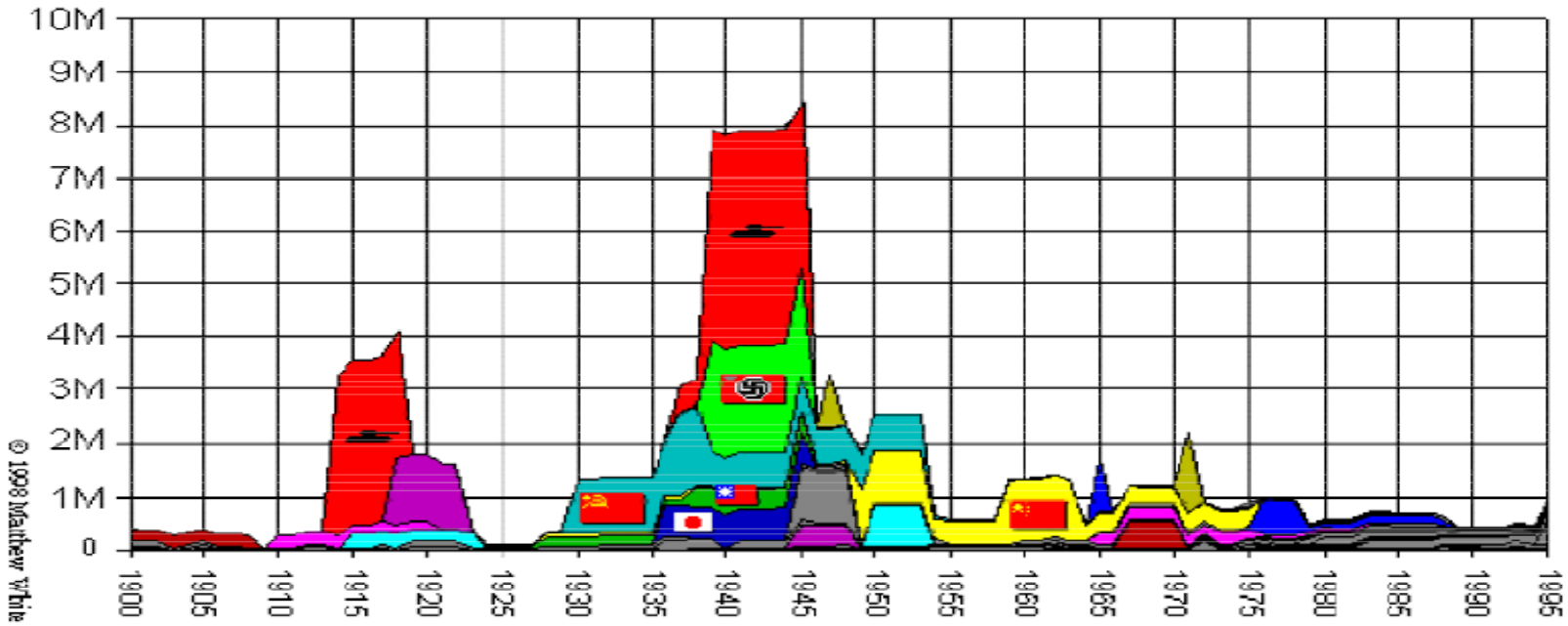
ijheid



- percentage democratieen neemt gestaag toe

veiligheid

- doden door ongevallen en moord nemen gestaag af
- aantal oorlogsdoden neemt niet toe, terwijl bevolking wel toeneemt



The positive evolution worldwide of objective correlates of happiness

type	Variable	Correlation with QOL	Increase over time	Progress
physical	infant mortality	–	– –	++
	life expectancy	++	++	++
	adequate nutrition	+	+	+
security	lethal accidents	– –	– –	++
	murder rate	–	–	+
	war deaths	–	– ?	+?
economic	purchasing power	++	++	++
	productivity	+?	++	++?
social	freedom	++	++	++
	equality	+	+?	+?
	corruption	– –	– ?	+ ?
cognitive	education level	++	++	++
	literacy	+	++	++
	IQ	+?	++	++?
	access to information	+	++	++
psychological	openness to experience	+	+?	+?
	mental health	+	+?	+?

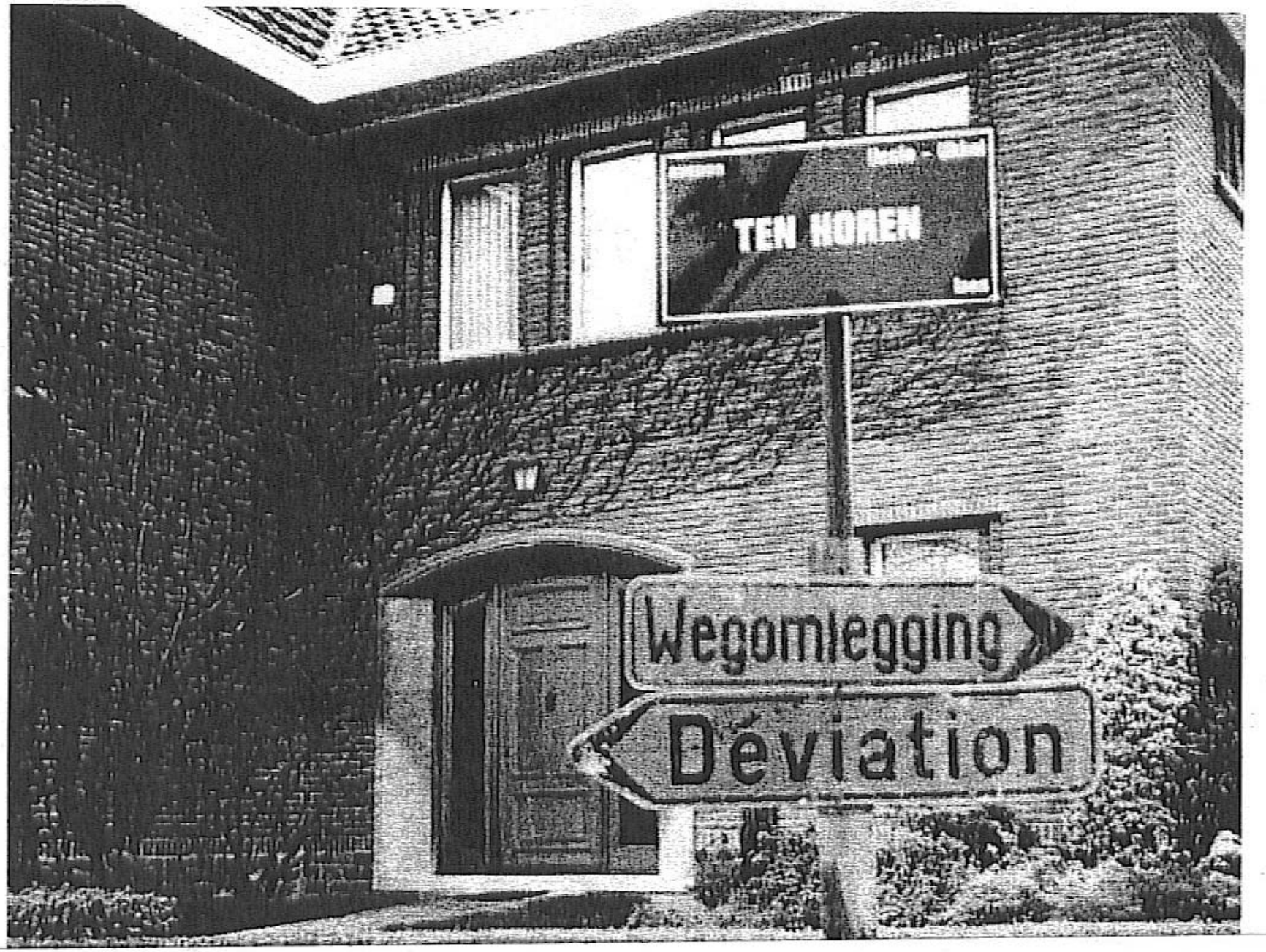
Objective progress worldwide, yet no increase in SWB. WHY?

- Cummins: Set point, homeostasis (national character, traits, ….)
- Easterlin: Relativity to expectations
- Unsensitivity 1: non-responsive measures?
- Unsensitivity 2: unknown determining variables which remain constant or deteriorate, ofsetting progress in other variables?
- ……

A second major requirement:

CIRCUMVENTING PROXIMATE RELATIVITIES

(cultural, circumstantial, peer…)

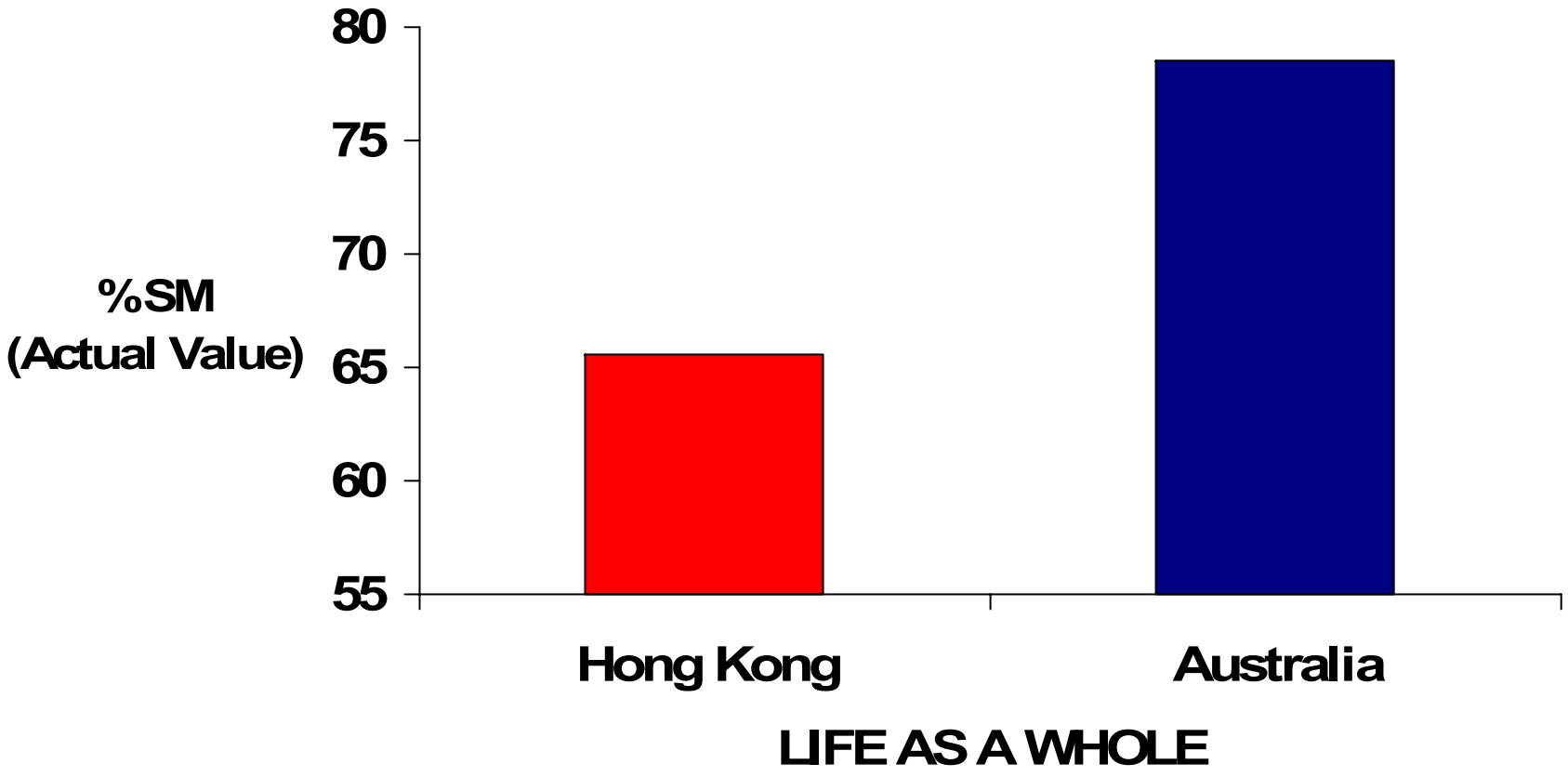

TEN HOREN
Wegomlegging
Déviation

Examples of suspect cultural bias

- **Nigeria N° 1 in the world in % of happy people** **(World Values Survey 2004)**
- **Columbians among the happiest** **(World Values Survey 2004 and Eduardo Wills, ISQOLS July 18th 2006)**
- **…..**
- **Chinese less happy than Australians**

SATISFACTION WITH LIFE AS A WHOLE

A. Lau & R. Cummins, *QOL Research* **13: 1496, 2004**



QUESTION:

Hong-Kong vs AUS difference real, or cultural, because different peoples use scales differently?

A. Lau & R. Cummins, *QOL Research* 13: 1496 , 2004

Identifying a cultural response bias

A. Lau & R. Cummins *QOL Research* 13: 1496, 2004

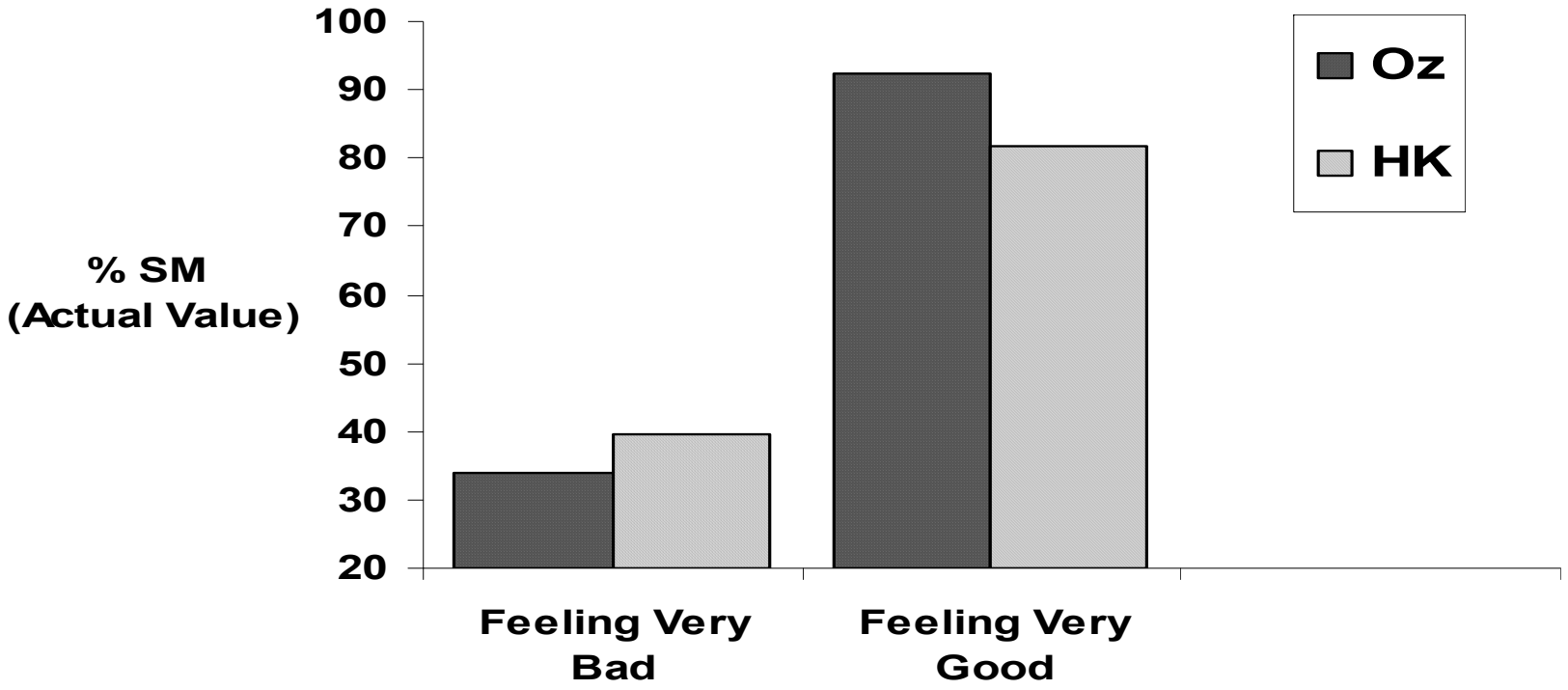
"Can you recall feeling really bad / really good sometime in your life ?"

"On the scale from 0 to 10, how would you have rated yourself at these times ?"

RESULT

A. Lau & R. Cummins, *QOL Research* 13: 1496, 2004

"How satisfied when …..?"



CONCLUSION ON CULTURAL RELATIVITY

A. Lau & R. Cummins, *QOL Research* 13: 1496, 2004

- Chinese use a narrower range of the scale than Australians: they **admit** to less happiness or misery.

- At least part of the apparent deficit in life satisfaction among Chinese is an artifact by **cultural bias**.

OUR CONTRIBUTION TO CIRCUMVENTING RELATIVITY BIASES: ACSA

ANAMNESTIC COMPARATIVE SELF ASSESSMENT (ACSA), a self-anchored scale of SWB based on happiness being an emergent individual experiential construct*

TO WHAT EXTENT CAN ACSA INCREASE SENSITIVITY AND BRIDGE CULTURAL & PROXIMATE RELATIVITIES IN FELICITOMETRICS?

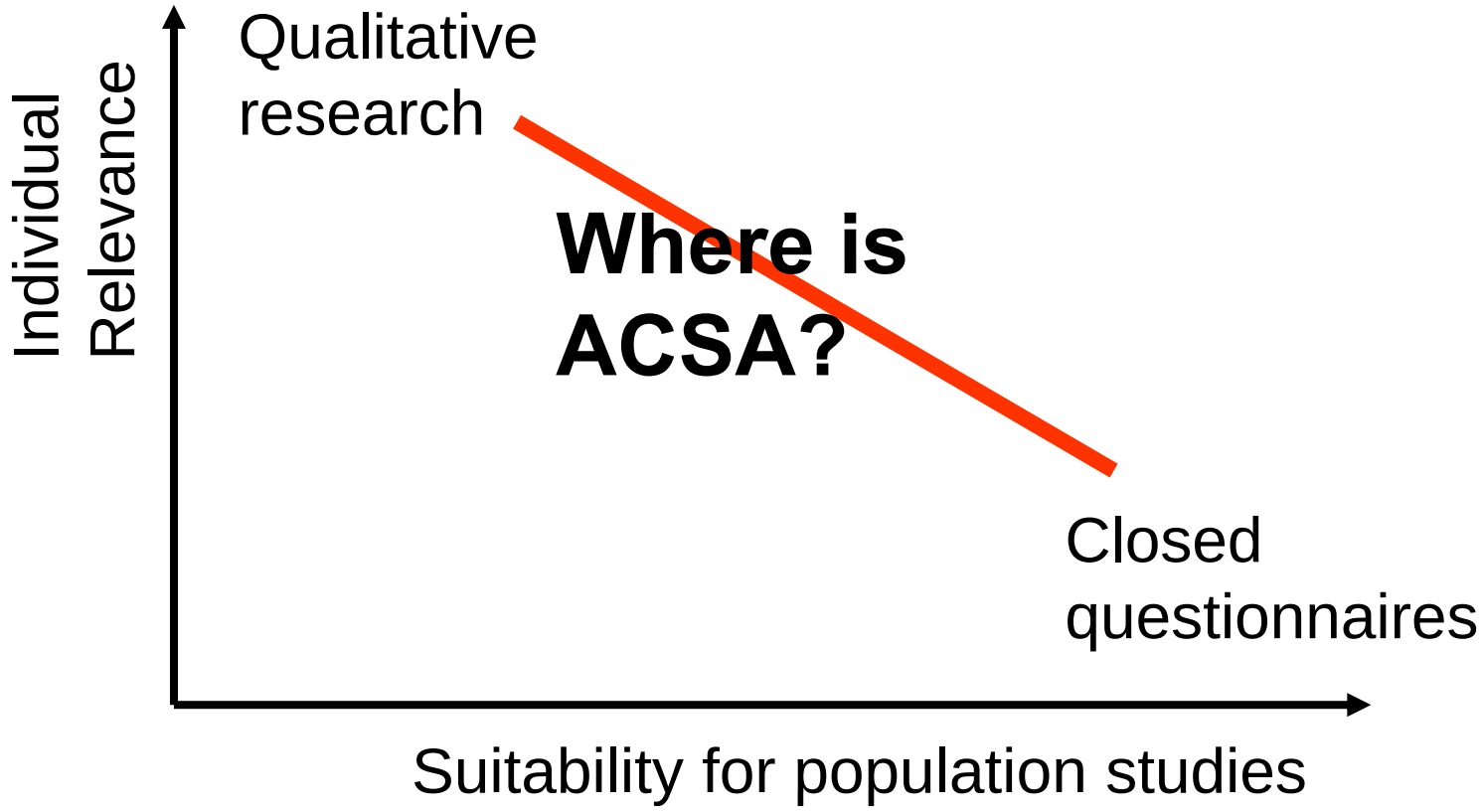
*Bernheim J. Bioethics 1999, 13:272-87

This presentation:

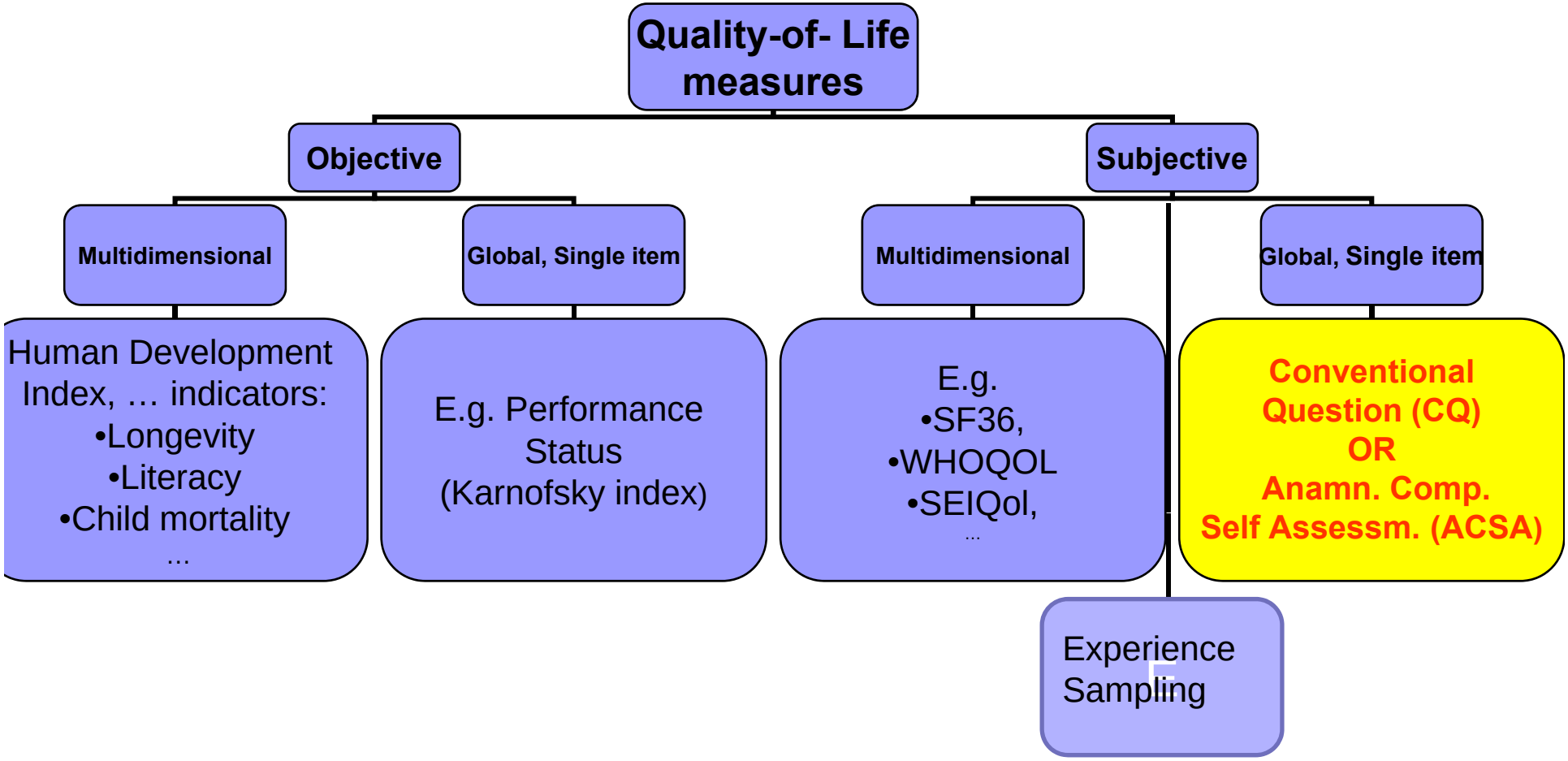
- **Felicitometrics in general: how do we do it?**
- **Why single-item global utility measures of SWB are necessary**
- **Cultural relativity as one of several pitfalls**
- **ACSA, not an alternative but a complementary approach, giving additional information**

Courtesy of the Airport Company of South Africa

Felicitometrics in general: From NARRATIVE to NUMERICAL QOL



A Taxonomy of Quality-of-Life measures



Why are composite indices and multiple-item questionnaires more descriptive than evaluative, and are single-item (global, utility) ratings necessary?

Problems with Multidimensional Questionnaires and Composite Indices

- Multidimensional instruments always incomplete
- Individual people have different preferences, which moreover change over time (Response Shifts): item or dimension weights remain elusive
- Dimensions of QOL not independent, but interacting (life = complex, therefore QOL = at emergent level)

→ Global, single question felicitometry

Relativity problems with the conventional global question (CQ) on QOL

- lack of attention, trivialisation of response ("How are you today?")
- mood-of-the-day effects
- proximate / peer relativity (~the neighbours) /relativity to expectations
- traits, character of individual people and of peoples (cultural relativity)

ANAMNESTIC COMPARATIVE SELF ASSESSMENT (ACSA)

- **Cancer patients: "*Faced with this disease, I have looked at the movie of my life. I thought of my best and my worst times...*"**
- **→ A scale defined by the respondents' memories of their best & worst times:**
  - **highly individual, yet universal**
  - **highly concrete**
  - **less relative: the respondent is his own control (internal standard)**

→ A serious answer to a serious question

Anamnestic Comparative Self Assessment (ACSA)

5 Best period in my life

0

-5 Worst period in my life

"taking it all together, my QoL, the last couple of weeks, was about ..... on my own scale"

...

SCHEDULE OF ACSA INTERVIEW

- Introduction: Your *personal* view is what counts, using your own criteria and scale
- 3 questions: Which were your 1) best and 2) worst times? (Bring them to mind, and tell us if you want). They are the anchors of your own scale.
- 3) Now, relative to these anchors, taking everything together, how happy were you the last two weeks?

Which of Global Questions is better for what?

Conventional Question (CQ)

I am ...

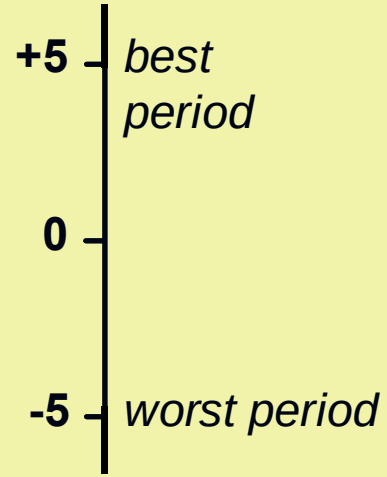
very satisfied	**5**
satisfied	**4**
neither/nor	**3**
unsatisfied	**2**
very unsatisfied	**1**

... with life as a whole

OR

Biographical Question (ACSA)

On this scale I rate the current period as ...

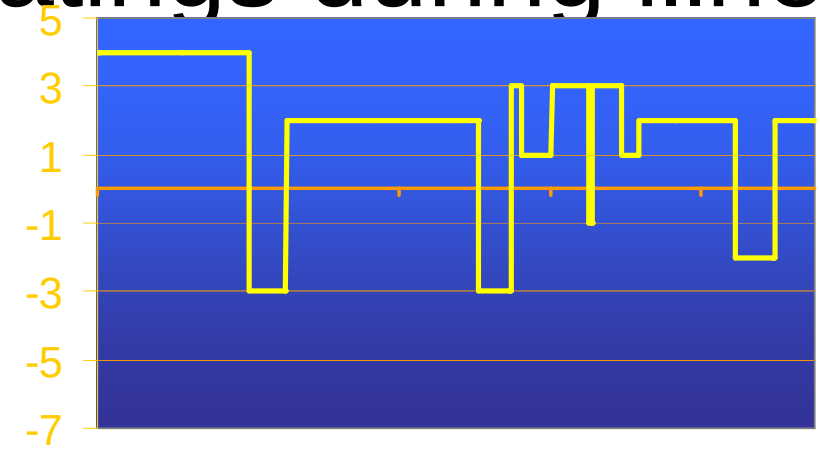


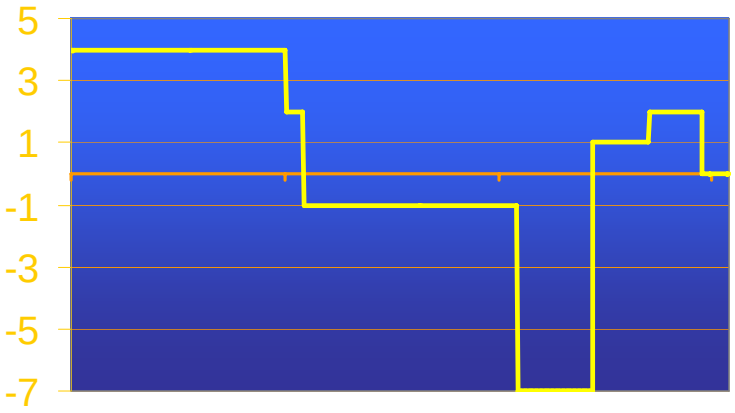
... in my life

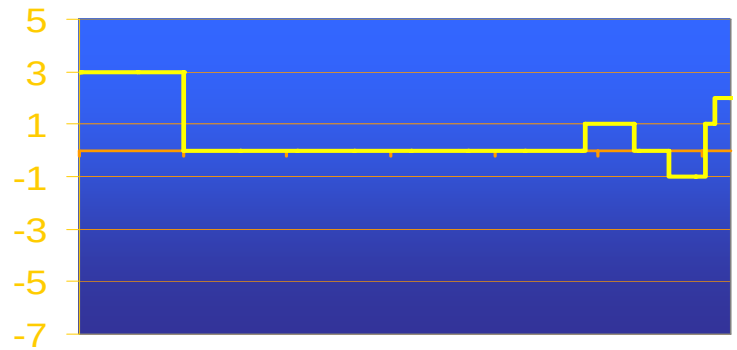
Reminder of Terminology and Definitions

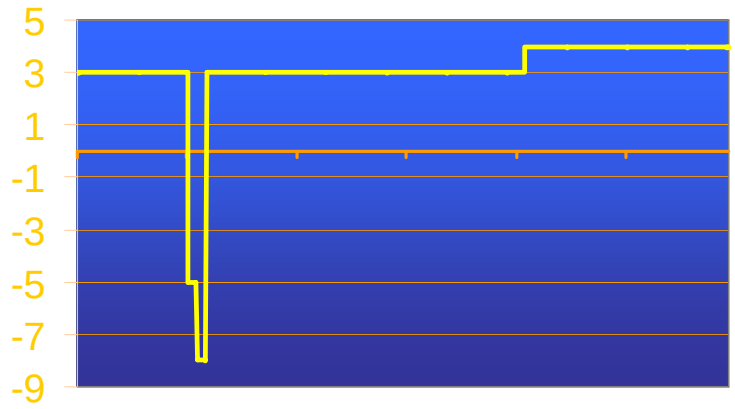
LABEL	CONTENT
CQ: Conventional Question	"How have you been?"
Anamnestic (based on memory)	
Comparative	"How have you been, relative to your best and your worst times?"
Self	
Assessment	

Examples of sequential ACSA ratings during illness









Conclusion: certainly SENSITIVE

THE POTENTIAL OF ANAMNESTIC COMPARATIVE SELF ASSESSMENT (ACSA) TO REDUCE BIAS AND BRIDGE CULTURAL RELATIVITY WHEN RATING SUBJECTIVE WELL-BEING (SWB).

J. of Happiness Studies 7: 227-250, 2006

Jan L. Bernheim[1,2,3], Peter Theuns[4], Mehrdad Mazaheri[4], Francis Heylighen[2], Matthias Rose[5], Herbert Fliege[5]

Depts of

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[2] Evolution & Complexity Research Group, Leo Apostel Centre for Interdisciplinary Studies

[3] Centre for Bioethics,

[4] Psychology, Vrije Universiteit Brussel, Belgium

[5] Dept. of Psychosomatics, Charité-Humboldt University, Berlin, Germany

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Aims

Comparing ACSA and CQ for:

- Responsiveness: sensitivity to objective evolution
- Discriminating power
- Sensitivity to socio-demographic variables

General hospital patients replied to both CQ and ACSA, administered as written questionnaires

Eating Dis.	n=305
Post-traumatic Stress Disorder	n=283
Anxiety	n=281
Affective Disorders	n=308
Somatisation Disorders	n=685
Dependency	n=128
Circulatory system.	n=112
Metabolic Disorders	n= 96
End-Stage Liver Dis. (pre transplantation) End-Stage Liver Dis. (post transplantation)	n=100 n=171
Total	**n=2545**

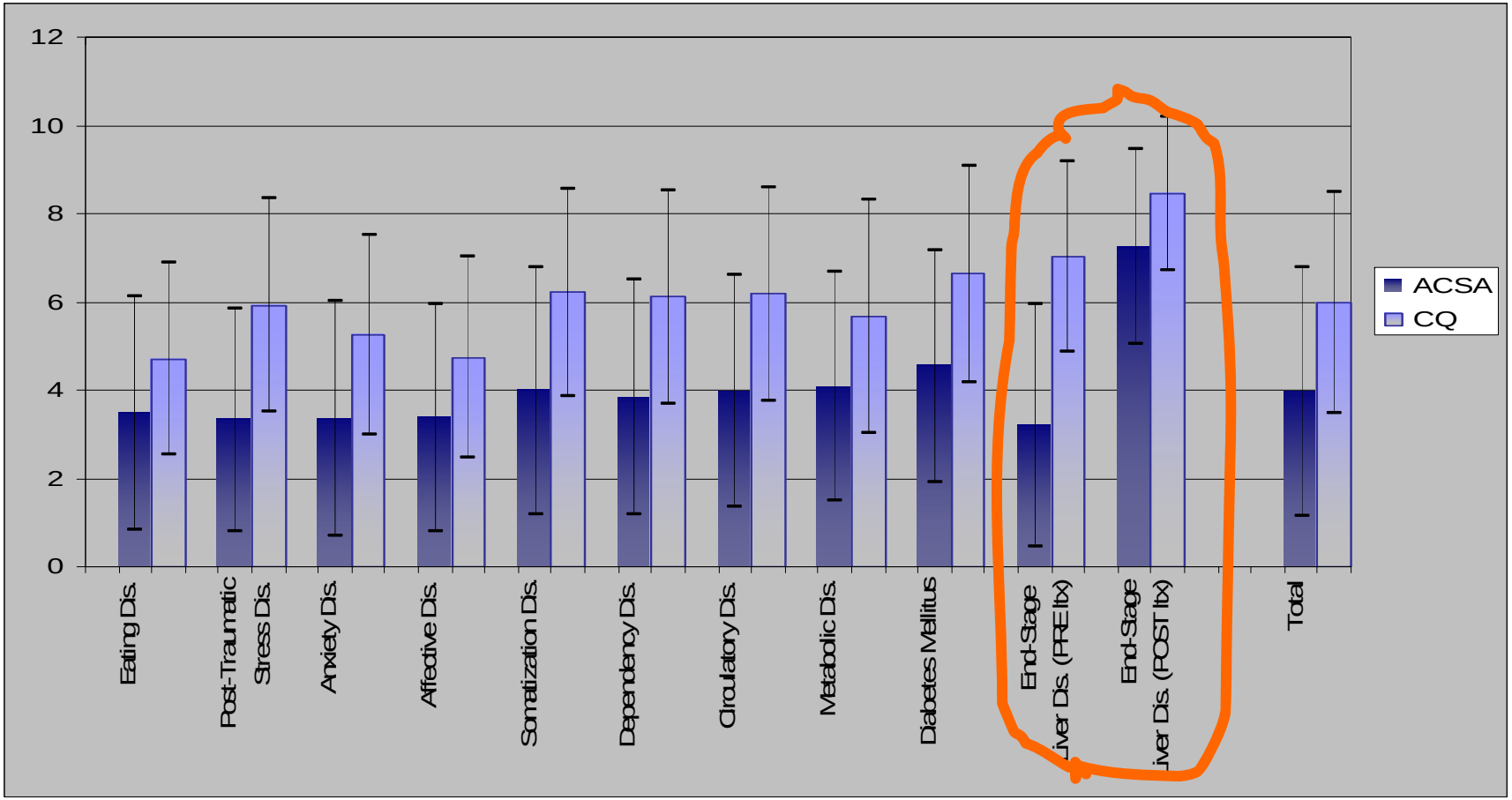
Results 1/2

I. Discrimination

II. Sensitivity to objective change

(= Responsivity)

Discrimination (inter-group comparisons) & Sensitivity to objective change (after life- and QOL-saving transplantation in End-Stage-Liver Disease)



1st conclusion : ACSA more sensitive to the respondent being diseased

- Overall ACSA ratings (*m* = 3,88) significantly lower than CQ (*m* = 4.69) (*p* < .001)
- *Skewness* ACSA = 0.41 and CQ = 0.05

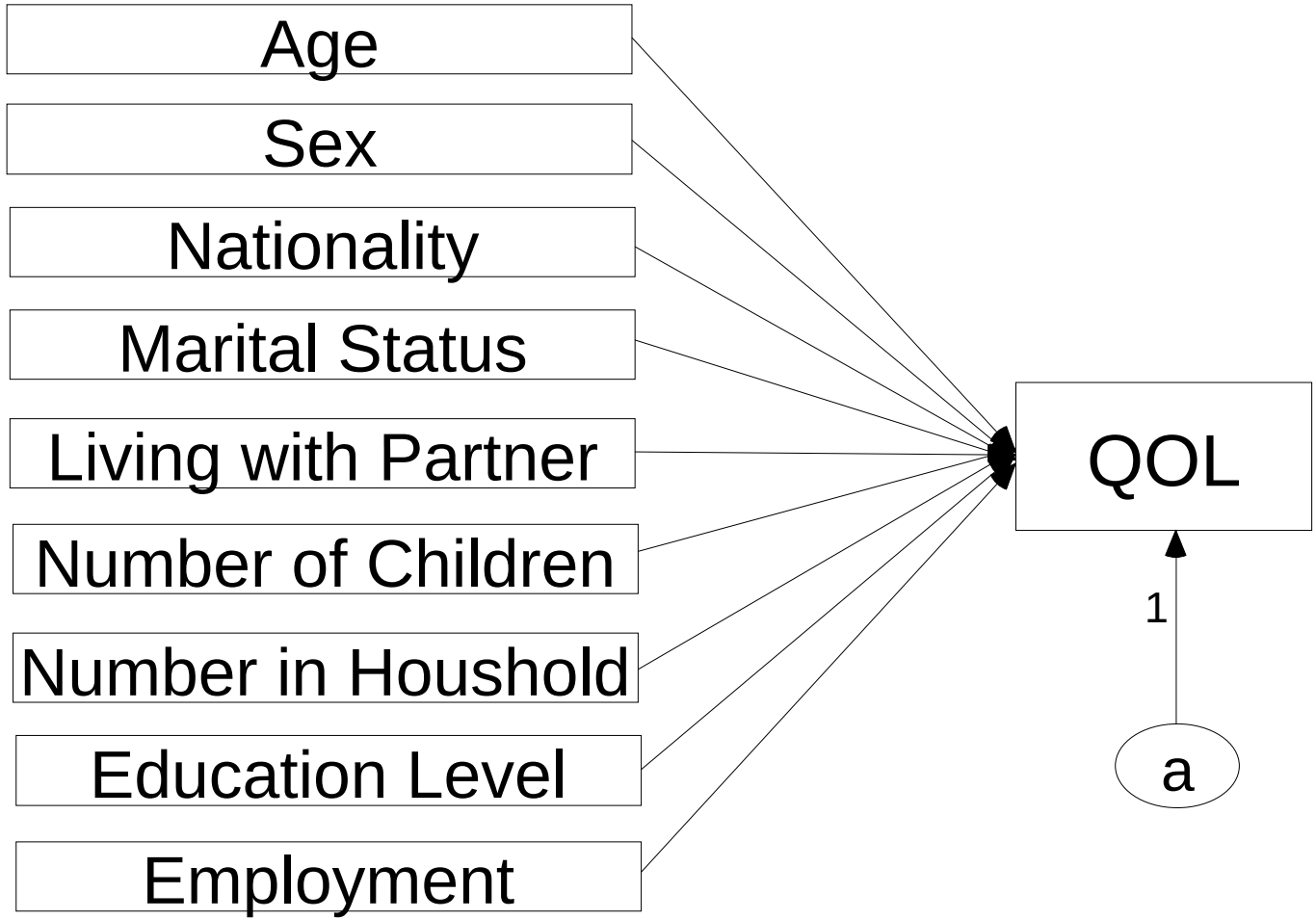
2nd Conclusion: ACSA more responsive to objective change

After life-saving liver transplantation, ACSA ratings increased ($\Delta ACSA$ = 4.12) significantly more than CQ (ΔCQ = 1.89) (p<.001)

Results 2/2

III. Sensitivity to socio-demographic variables

Structural Equation Model for surveyed socio-demographical variables to predict QOL



Sensitivity to socio-demographic variables

Variables	Beta coefficients	
	Conventional Question	ACSA
Age	.209**	.014
Sex (M=1 / F=0)	–.043*	–.012
Marital status (single or married=1/ widowed or divorced=0)	–.119**	.004
Highest graduation (grammar school or higher=1 / lower=0)	–.015	.007
Employed (Yes=1 / No=0)	–.087**	-.07**
Adjusted R square	.051	.011

** $p \leq 0.01$ level (2-tailed)

* $p \leq 0.05$ level (2-tailed)

Conclusions and discussion on ACSA vs Conventional Question

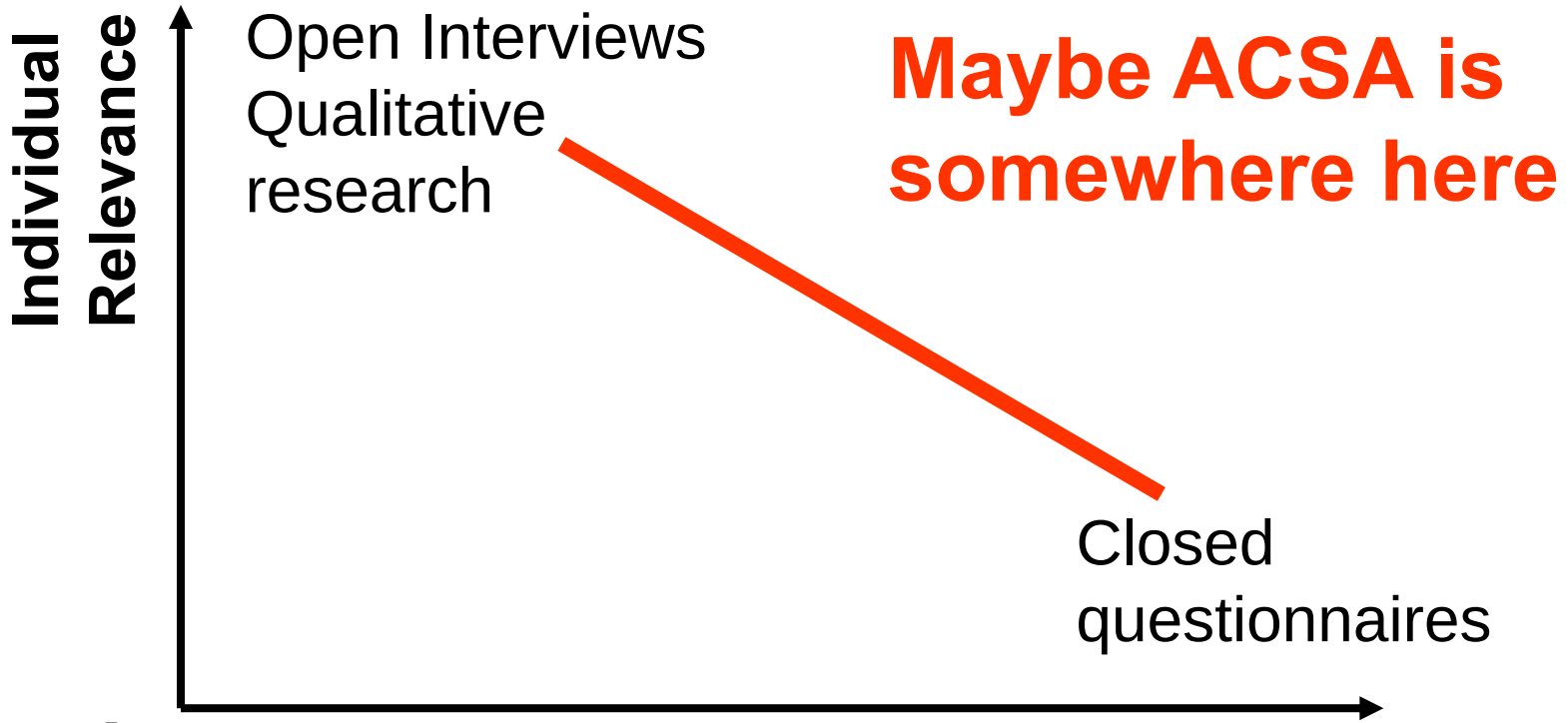
OBSERVATIONS

- ACSA more discriminating
- ACSA more sensitive to objective changes
- ACSA minimally sensitive to socio-demographic variables

EXPLANATIONS

- Serious, concrete, individual
- Respondent = his own control
- Use of an **internal** standard with **biographical** references

Measuring SWB in general: NARRATIVE AND NUMERICAL QOL



Where is ACSA?

Cultural gaps bridged by ACSA?

- **Hypothesis:** If Asians and Europeans are asked to use ACSA's biographical scale anchors, this may normalise their QOL scales. Thus, we could dispense with the need for 'cultural correction factors' when comparing QOL in different cultures.

- **Future research:** more intercultural comparisons, further study of scale properties.

An example of the practical application of ACSA

Is life worth living in locked-in syndrome ?

British Medical Journal Open
doi:10.1136/bmjopen-2010-000039

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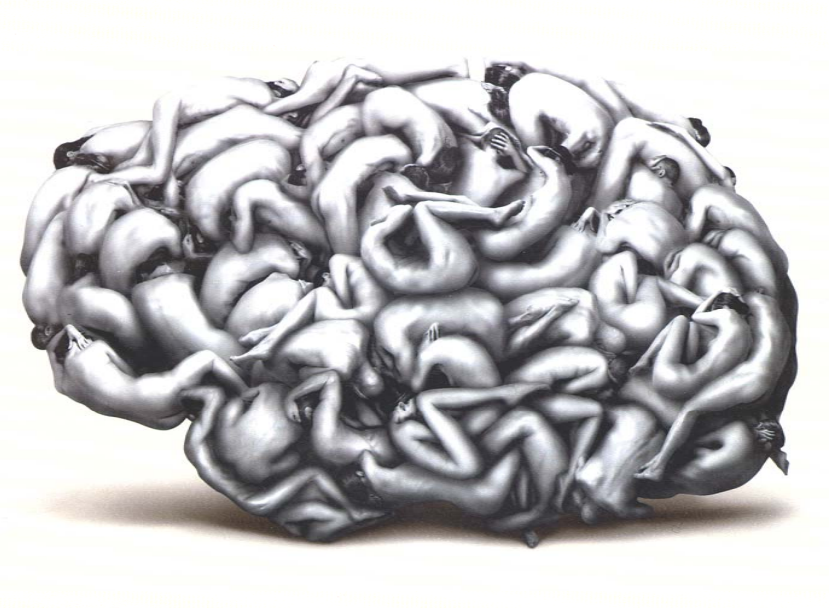
G. Moonen, S. Laureys



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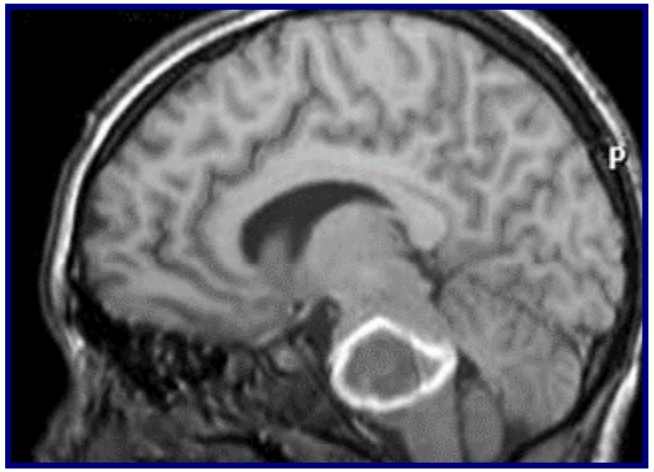
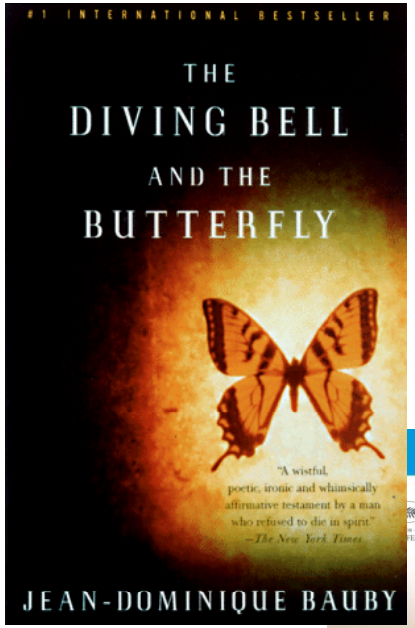
ALIS
Association du Locked-in Syndrome

Locked-in syndrome (LIS)

- preserved eye opening
- quadriplegia or quadriparesis
- aphonia or severe hypophonia
- ocular communication
- preserved cognitive abilities



Locked-in syndrome (LIS)



ALIS
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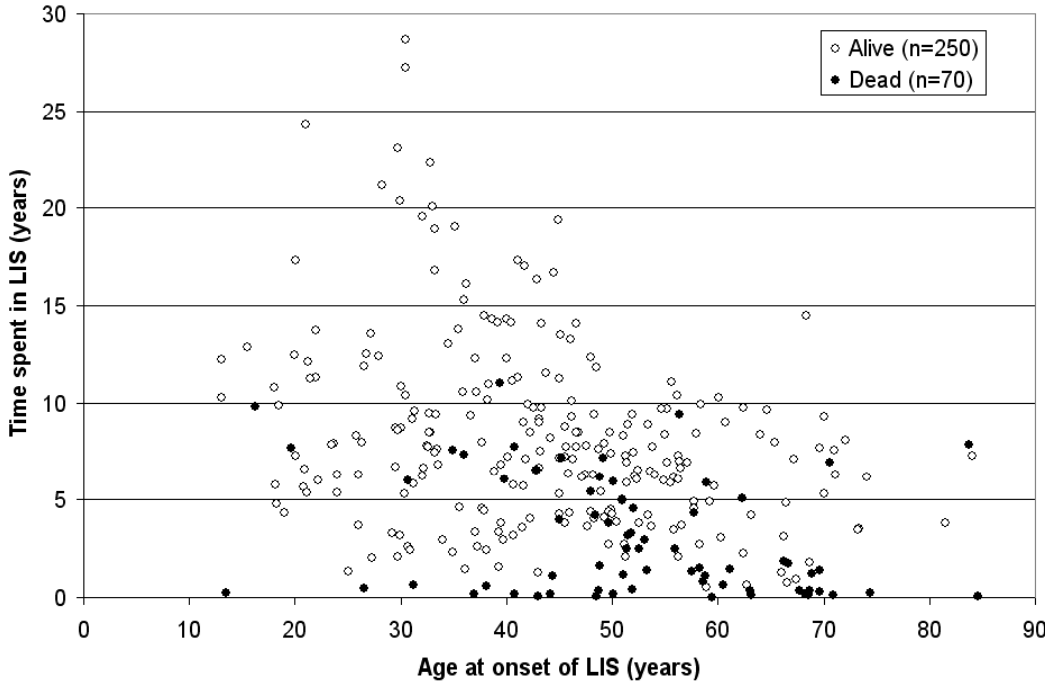
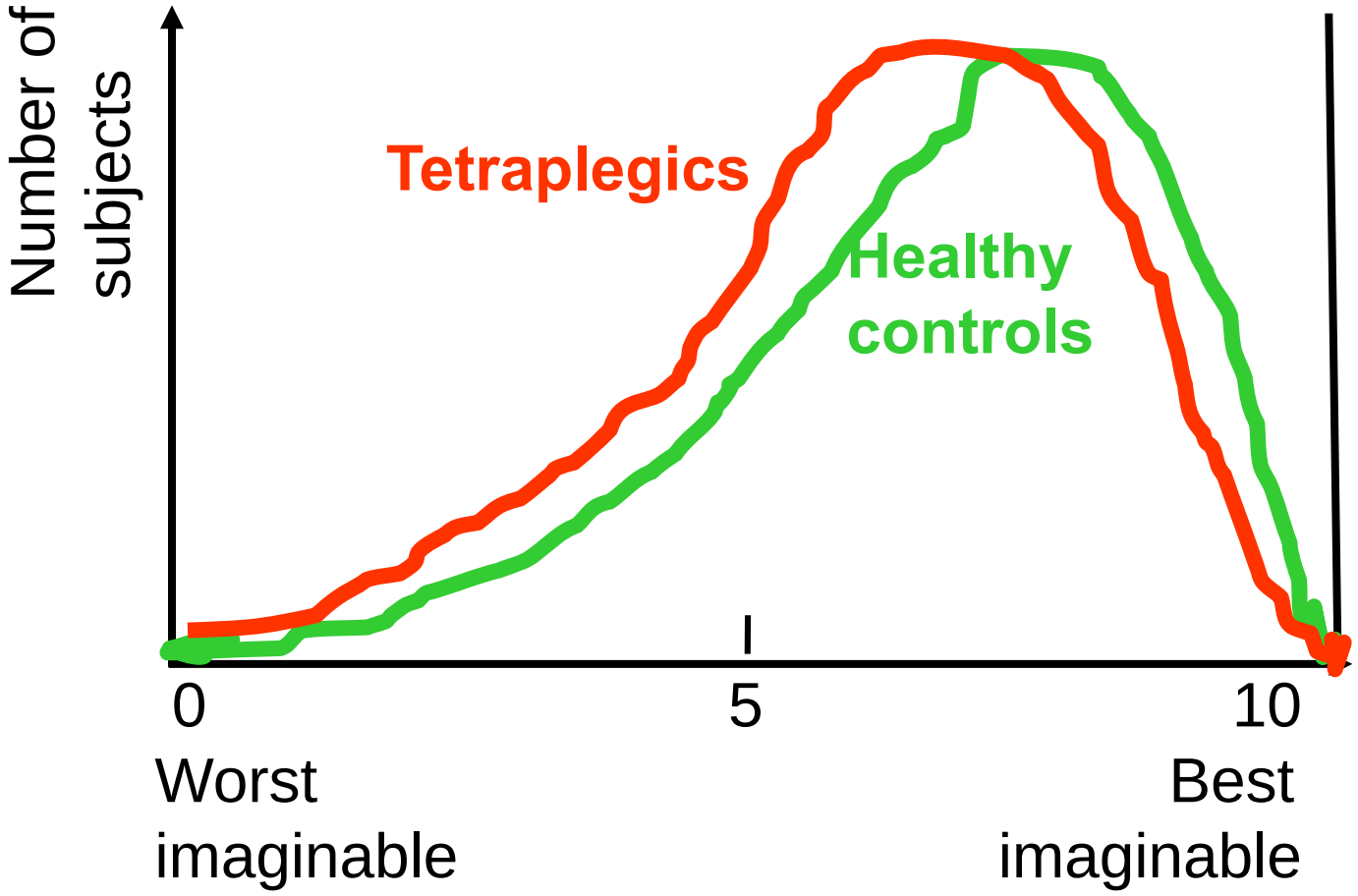
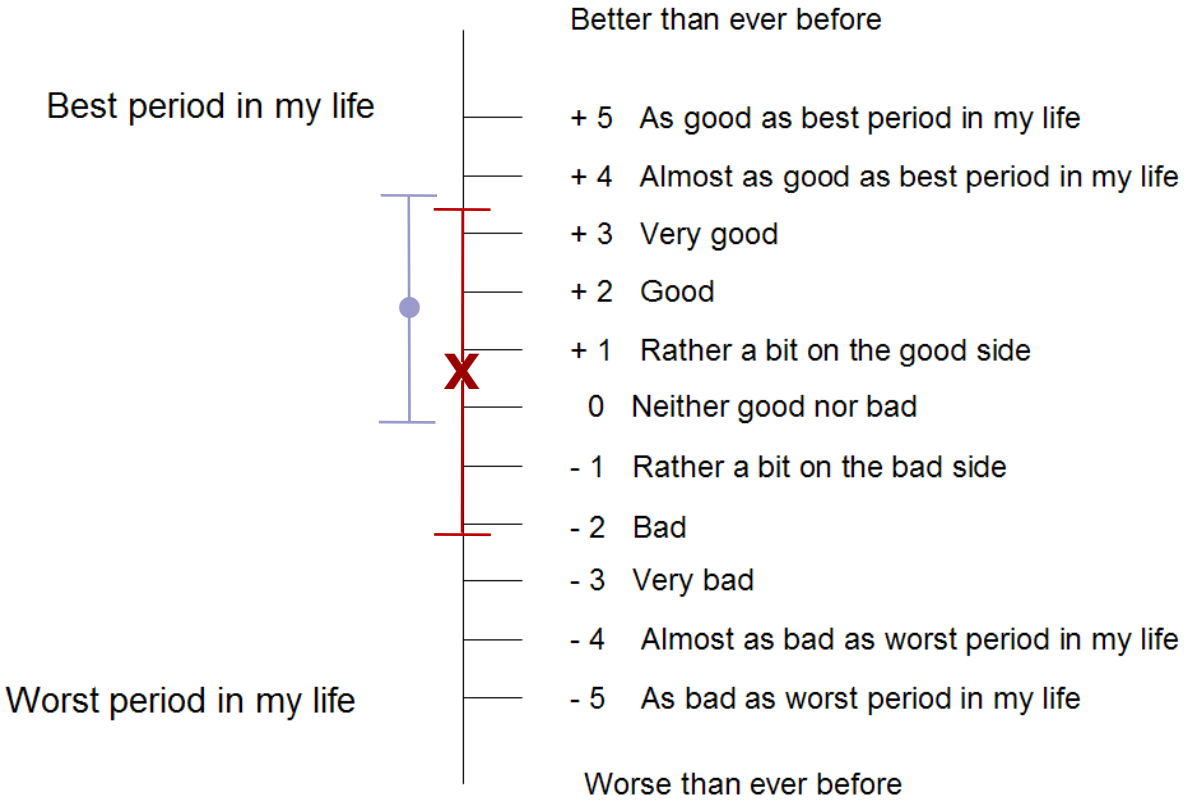


Laureys et al., Progress in Brain Research, 2005

With conventional measures, severely disabled have similar SWB as healthy controls (e.g. review of QoL of tetraplegics: Eisenberg & Saltz, Paraplegia 29: 514-20, 1991)



ACSA scale

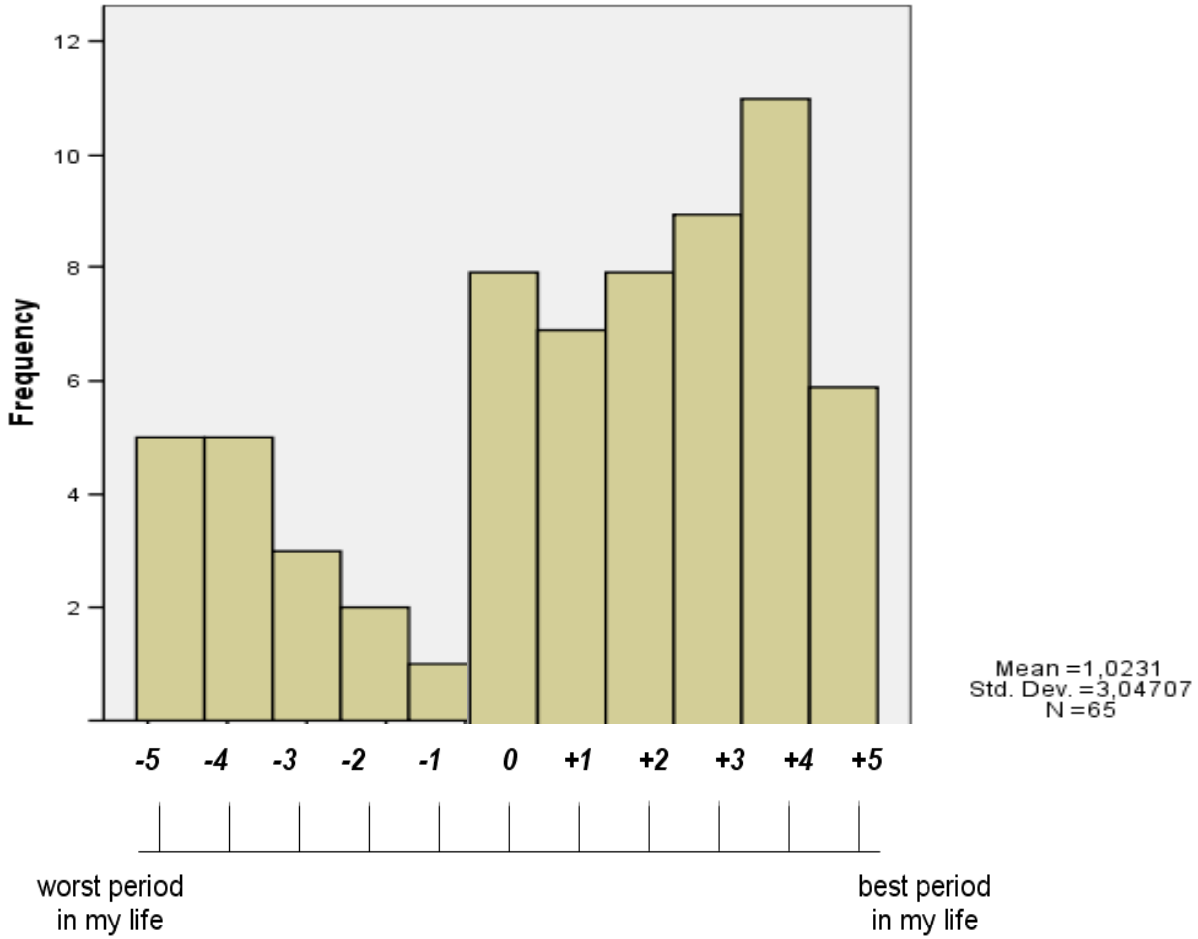


X Locked-in patients n=65

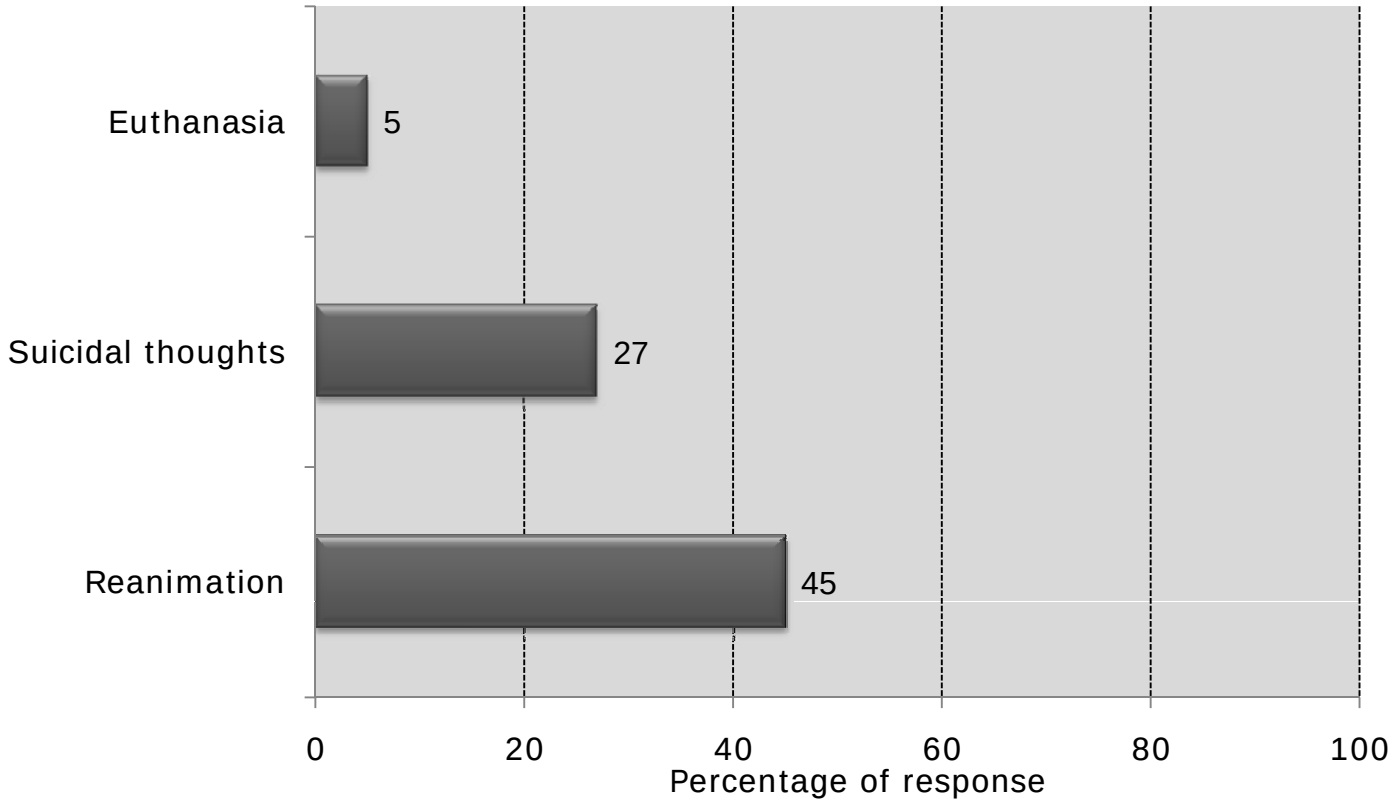
• Controls subjects n=820

ALIS Questionnaire 2007

ACSA ratings distribution



End-of-life issues



Conclusions

- The majority of chronic LIS patients self-report a meaningful quality of life; confirmation of human resilience

- Subset of 27% of chronic patients revealed who are miserable **This is revealed thanks to ACSA's biographical scale anchors**.

→Clinical consequence: they are eligible for non-reanimation or euthanasia

Overall conclusions on suitability of measures of SWB

ACSA is better to identify the unhappy, but it’s not enough

- We have a sensitive, responsive and non relativistic measure of QOL to identify the unhappy
- If we want to improve things, we also need to know what makes people happy or miserable

How to identify domains which most contribute to QoL (and are amenable to improvement by selective policies)?

- Bottom up: ask people what they value most. Problem: do they know? (preference for what they miss…), do they tell? (social desirability…)
- Top down: identify OBJECTIVE characteristics (socio-demographics, life circumstances, behaviours, attitudes, traits …) which are statistically (in regression analysis) related to high overall SWB. = the more valid & reliable method

Relative sensitivity of different types of QoL measurement instruments to biasing factors

Factors impacting on measured QoL	ACSA	Convent. Question	Composite indices e.g. SWI	Multi-dimensional instruments (e.g. SF36 or WHOQOL
Trivialisation				
Socio-demographic gender, educ., age…				
Personality traits optimism,extraversion, neuroticism…				
Proximate relativity external relativity				
Cultural boasting, moaning, …				
Changed life circumstances →Response shift				
Ephemerity Mood-of-the-day				
Social desirability, Ego defence …				
Interviewer bias				
Explanatory power				

Suitability of different types of QoL measurement instruments depending on one's study objectives

Objectives of study	Instruments					
	Evaluative of QoL				***Descriptive*** of QoL (explanatory) Multi-item multidimensional instruments (e.g. SF36, WHOQOL or SWI dimensions)	ACSA + multi-item multidimensional instrument
	ACSA	Conventional question e.g. 'Life as a whole' in SWI	QoL composite indices e.g. SWI	Experience Sampling		
Socio-demographic factors impacting on QoL	☹	☺	☺	☺	☺	☺
Cultural effects	☹	☺	☺	☺	☺	☺
Controlling for socio-demographic factors	☺	☹	☹	☹	☹	☺
Controlling for cultural effects	☺	☹	☹	☹	☹	☺
Longitudinal studies	☺	☹	☹	☹	☺	☺

Philosophical views on Quality of Life

- Revealed: religious
- Imposed: totalitarian
- Capabilities (Sen & Nussbaum) or Eudaimonic (Aristotle, Bok): "objective", universal values
- Utilitarian: happiness = sustainable subjective wellbeing = a utility

  hedonistic ←-----ACSA----→ eudaimonic