

Coherence and bias in the retrospective evaluation of well-being

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INTRODUCTION AND AIMS

Literature on retrospective measures shows that subjective evaluation on the past is biased (Schwartz, Kahneman & Xu, 2009; Robinson & Clore 2002; Lelièvre & Vivier, 2001), and that **some individuals give a more coherent evaluation than others** (Perren, Keller, Passardi & Scholz, 2010; Morris & Slocum, 2010). However some research (Belli, Shay & Stafford, 2001; Yoshihama, Hammocks & Horrocks, 2006; Callegaro, Yu, Cheng, Hjermstad, Liao & Belli, 2004) showed also that life calendars are more reliable than other retrospective measures in collecting life events. The aim of this study is to **test the coherence** between perception of health and happiness at a given time, and their **retrospective evaluation** a few years later, measured with a life history calendars. In particular, we wanted to explore the reliability of life calendars as a retrospective evaluation of well-being, and to explain possible reasons of these errors.

HYPOTHESIS

Does the reliability of the retrospective measures of well-being depends on personal characteristics of people or on the **type of perception** (i.e., happiness and health) measured?

Hypothesis A: more stable individuals report subjective evaluation of the past with fewer errors than unstable respondents (the stability hypothesis).

Hypothesis B: there is a difference between objective (health status) and subjective (happiness) measures.

METHOD

Data

Survey of Health, Ageing and Retirement in Europe (SHARE) (*N*: more than 45,000 individuals aged 50 or over), is a longitudinal survey, composed of three waves:

- The first two (SHARE 2004 and 2006) use prospective measures of well-being
- While the third one (SHARELIFE, 2008) uses retrospective life-calendars.

These data allow us to compare prospective measures of well-being (happiness and health) collected in 2004 and 2006 to retrospective measures collected with life calendar in 2008.

MEASURES

Well-being

Perception of happiness: We used the measure of sadness or depressed in the last month in waves 1 and 2 of Share as an indicator of happiness. In SHARELIFE people had to indicate the most happy period.

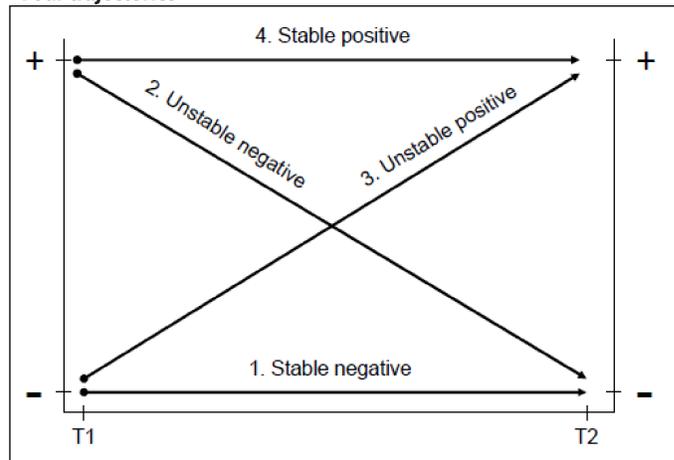
Perception of health: In SHARE Wave 1 and 2 we used to define the perception of good health the variable that asks how the people perceive their health. We assumed that if the response was "fair" or "poor" this indicates a period of poor health. In SHARELIFE people had to indicate the period of poorest health.

Stability of respondents

Four groups are defined on the basis of their change in perceptions:

1. **Stable negative:** those who in the two waves felt negatives feelings.
2. **Unstable negative:** those who in the first wave felt positive feelings but in the second wave felt negative feelings.
3. **Unstable positive:** those who in the first wave felt negative feelings but in the second positive feelings.
4. **Stable positive:** those who in the both waves felt positive feelings.

"Four trajectories"



Bias of perception

The trajectories of perceptions were made prospectively (wave 1 and 2) and retrospective (SHARELIFE) and we compared the differences between what was said in the first (2004) and second (2006) wave to what has been said in retrospect SHARELIFE (2008) on the feelings they had in the past two times.

Example:

Stable positive (prospective) and Stable positive (retrospective) = no bias/error
Stable positive (prospective) and Stable negative (retrospective) = bias/error

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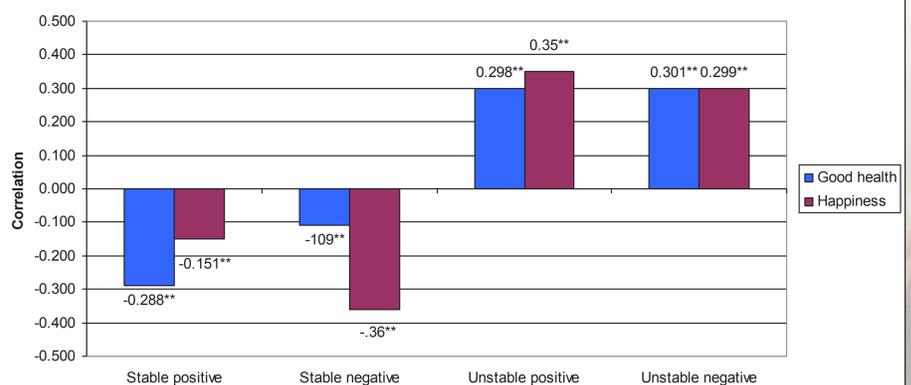
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RESULT

Hypothesis A: Initial results show that there is a significant difference between the stable people and the unstable people in both dimensions (health status and happiness).

The Graph 1 show a Spearman Correlation's between the error (or bias) and the four trajectories. There are an inverse relationship between the error and the Stable trajectories in both of the measures. On the contrary the unstable trajectories have direct relationships with the error. This means that being in the stable trajectories means to have less probability to make errors of recall, whereas being in the unstable trajectories means to have more probability to make errors of recall.

Graph 1 Spearman Correlation's between the error and the four trajectories

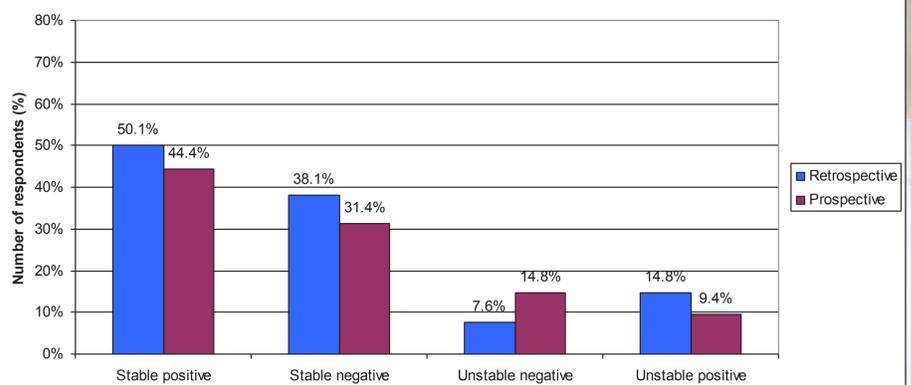


** Correlation is significant at the 0.01 level (2-tailed).

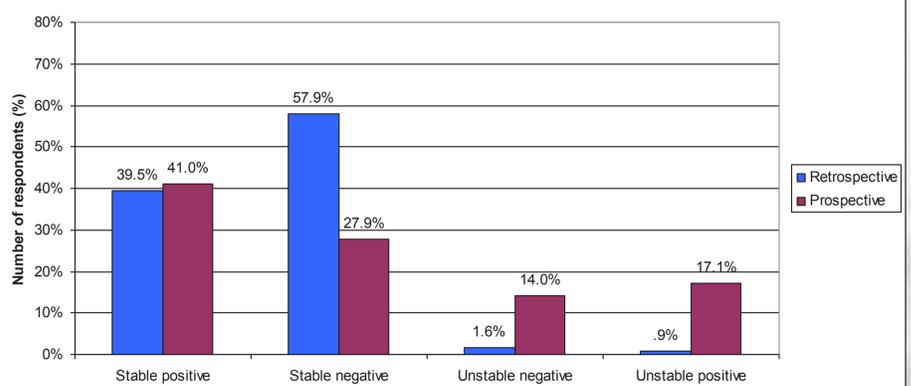
Hypothesis B:

Both graphs show that in the **retrospective** measure there are more stable respondents than in the prospective measures that have a better distribution. But in the Happiness's graph the tendency is more accentuated than in the Good Health graph.

Graph 2 Good Health



Graph 3 Happiness



CONCLUSION AND DISCUSSION

Results show that there are bias of measurement that we explained depending on the stability/instability of the answer that participants gave during the first and second wave

We have also noticed that distribution of the participants on the four trajectories, depends on the type of measure (prospective/retrospective) and on the type of perception (happiness/ health status) So concerning hypothesis A we notice that the bias is not caused by the positive or negative nature of the trajectory but is caused by instability of the trajectory.

Concerning hypothesis B there is an overrepresentation of stability on the retrospective evaluation, and this result is more obvious with objective perceptions, like health, than with subjective perception like happiness.