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Subjective and Objective Well-Being

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1. Introduction

Contemporary «happiness economics» relies heavily on people's subjective appraisal of their life[1]. Yet *subjective* measures stand in contrast to so-called *objective* measures constructed by others out of various economic, demographic, health and social engagement indicators. Of specific interest in the following discussion is the fact that empirically these two categories of well-being, the objective and subjective, are only weakly positively correlated at the level of the individual and the group (Headey, Wearing, 1992)[2].

Notwithstanding their weak correlation, most research in the field of «happiness economics» is now based on *subjective* measures of well-being, an assumption that,

> would have scandalized economists such as Pareto or Samuelson: the cardinal measurement of happiness and interpersonal comparisons that the neoclassical paradigm had criticised and considered to be wrong for serious scientific analysis (Bruni, Porta, 2016, p. 3).

Given this intellectual history it is not surprising that early proponents of subjective well-being within economics felt the need to defend its use by seeking *positive* correlations between objective and subjective measures of well-being (Oswald, Wu, 2010) rather than asking *why* there is such an inconsistent correlation between the two[3].

I begin by considering the concept of homeostasis as a broad conceptual framework for explaining the difference between the subjective and objective measures of well-being and then consider how the two relate geographically.

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[1] The measure used in the European Social Survey is typical: «All things considered, how satisfied are you with your life as a whole nowadays? Please answer using this card, where 0 means extremely dissatisfied and 10 means extremely satisfied».

[2] Words like subjective and objective can be used to refer to matters of substance, as used here but they can also refer to methods of assessment (Veenhoven, 2004).

[3] Although I do not explore this further here, it is worth noting the presence of reverse causation- the implications subjective well-being has for objective conditions (De Neve *et al.*, 2013).

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2. Homeostasis

Psychologist Robert Cummins argued that the interaction between the objective and the subjective occurs within a system that homeostatically maintains subjective quality of life within a narrow range. Life satisfaction, he observed, is not simply free to vary over its 0 to 100% range.

> Instead, it appears to behave as a variable held under some form of homeostatic control, in a manner analogous to blood pressure. However, while the latter [the objective] is maintained in its normative range by associated autonomic devices, subjective well-being is maintained by various cognitive devices that seem to certainly include a sense of control and positive cognitive biases (Cummins, 2000, p. 63).

According to Cummins it is the capacity of the individual's cognitive system to adapt to varying environmental circumstances that results in the objective and subjective indicators often being poorly correlated. Provided that the environmental conditions allow for full adaptation to occur, he argued,

> there will be little or no relationship between objective and subjective well-being (*ibidem*, p. 63).

At the same time,

> very poor objective conditions can defeat homeostasis and, once this occurs, the objective and subjective indicators display stronger covariation (*ibidem*, p. 55)[4].

I illustrate this non-linearity by representing a range of average daily temperature ranging from very cold to very hot on the horizontal axis of Figure 1. The vertical axis depicts subjective well-being running from the lowest to highest point on the well-being scale. The hyperbolas traces the non-linear relationship between the two measures of well-being at two different levels of income, Y and Y'. Subjective well-being increases as average temperatures rise from the very cold to the temperate at *b* then falls away as temperatures continue to rise to the very hot. With resources Y, subjective well-being can be maintained at a reasonably high level only if the objective conditions, the temperature, remains within an acceptable range such between *a* and *c*.

Individuals can sustain an acceptable level of subjective well-being within the *a-c* temperature range only if they add or shed layers of clothing or by installing central heating in homes in cold climates and air conditioning in

[4] In the quality of life field, there are several theories that describe the relationship between objective quality of life indicators and subjective life satisfaction. They are usually restricted to either the individual level or national level. Examples of the former are need theory Maslow (1943), comparison theory, Festinger (1954), and personality theory. Examples of the latter are liveability theory Veenhoven (1995), and national character theory. Theories that explicitly try to connect both the impact of social contexts and individual level factors on life satisfaction are, however, seldom encountered, although see Bronfenbrenner (1979).

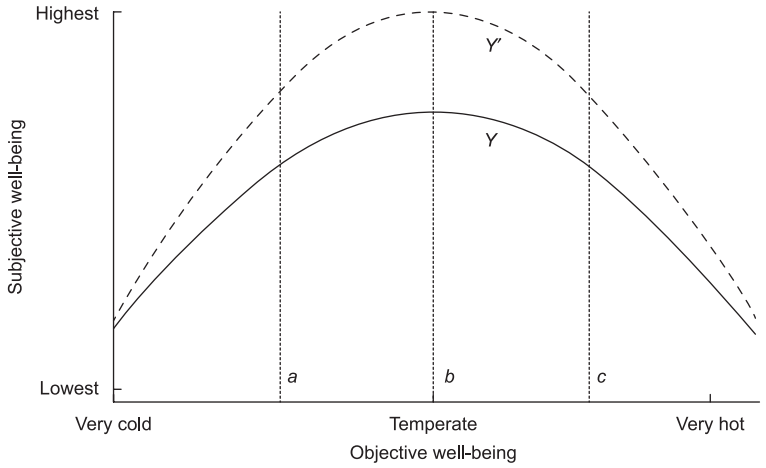

Figure 1: The changing correlation of objective and subjective well-being.

hot climates[5]. Once outside the *a-c* range homeostatic control breaks down and extreme cold or extreme heat take their toll and subjective well-being falls outside an acceptable range. Within the acceptable range, *a-c*, there is no linear correlation between the subjective and objective dimensions but as objective conditions become more extreme the linear correlation becomes more evident, positive at the cold end and negative at the hot end.

As Cummin's own empirical tests suggested,

> ... provided that the environmental conditions allow for full adaptation to occur, there will be little or no relationship between objective and subjective well-being. However, once the threshold for adaptation is exceeded, the difficult objective circumstances of living begin to drive subjective quality of life down objective and subjective indicators will more strongly co-vary (*ibidem*, p. 63).

Hence if income rises from *Y* to *Y′* and one gains greater control over the living environment one has the material basis for extending the range of temperatures one can live comfortably live at[6].

The «adaptation» Cummins refers to in general terms takes two distinct forms in the geographical case – *in-situ* adaptation and *spatial sorting*. In-situ adaptation refers to our ability to adjust our well-being locally – that is without moving. The other way we adapt to challenging environments is to change residence and sort spatially into environments which are most likely to enhance our individual (and collective) life satisfaction[7]. Both forms of

[5] There is an accompanying argument in which harsher climatic conditions also induce collective approaches for mutual support and reductions in the value attributed to individualism.

[6] See a closely related discussion showing how wealth can be applied to overcome environment short comings in order to sustain subjective well-being: Fischer, Van De Vliert (2011).

[7] One might view the classic work of Diamond as an historical treatment of both adaptation and spatial sorting conditions: Diamond (1999).

adjustment are designed to maximise our «environmental fit». We select and adapt the place in which we live so that the objective and subjective conditions more closely align. What Cummins' thesis brings to the regional science literature therefore is a recognition that the processes of in-situ adaptation and spatial sorting are both driven by a need to maintain homeostasis[8].

3. The regional connection

The concept of homeostasis helps us understand why in his *The Sense of Well-being in America*, sociologist Angus Campbell found that subjective indicators of quality of life in the different regions departed dramatically from what he had learned from comparison of their objective characteristics (Campbell, 1981, p. 147). Campbell found that regional differences in subjective well-being (within the USA) were modest at best and could not be explained by the much greater variability in economic and related characteristics of regions (*ibidem*, p. 148). The reason he found such a low correlation between the objective and the subjective at the regional level was because people had moved and adapted their environments within the range *a-c* of Figure 1 and or drew on higher incomes (Y to Y') in order to keep their subjective well-being within homeostatic control[9].

4. Conclusions

A recent review observed that the study of (quality of life) is based on,

> a fundamental assumption: the acceptance that the social and physical environment of an area can influence the well-being of people residing in that area (Lambriri *et al.*, 2007, p. 1).

In this commentary I have argued that the economists' search for positive correlations between the subjective and objective has been driven by a disciplinary need to defend their «subjective turn» against its detractors within the discipline rather than asking *why* the linear correlation between objective condition and subjective might be so weak.

[8] One can extend the physical example of temperature in Figure 1 to the cultural domain by recognising that places exhibit differences in political orientation, religious persuasion and socio-economic class as well. By extension one might be able to sustain a high level of subjective well-being over a range *a* to *c* in Figure 1 by adapting behaviour to a foreign environment but beyond these ranges well-being will drop causing a stronger statistical relationship between subjective and objective well-being.

[9] I am assuming throughout that numerous factors that otherwise contribute to psychological well-being are held constant, so that «people who match their cultural environment will experience better psychological well-being than those who do not»: Fulmer *et al.* (2010). I apply the concept of environmental fit and spatial sorting elsewhere: Morrison, Weckroth (2018).

Asking this second question I suggest would lead to an understanding of how people adapt to objective conditions in ways that keep their subjective well-being under homeostatic control. It would also help explain why the positive correlation between subjective and objective well-being can become so weak in some environmental circumstances and not others.

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