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# Are We Getting It Right? Values and Life Satisfaction

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# **Are we getting it right? Values and life satisfaction**

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## **Draft Paper**

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### **Abstract**

The research agendas of psychologists and economists now have several overlaps, with behavioural economics providing theoretical and experimental study of the relationship between behaviour and choice, and hedonic psychology discussing appropriate measures of outcomes of choice in terms of overall utility or life satisfaction. Here we model the relationship between values (understood as principles guiding behaviour), choices and their final outcomes in terms of life satisfaction, and use data from the BHPS to assess whether our ideas on what is important in life (individual values) are broadly connected to what we experience as important in our lives (life satisfaction).

JEL codes: D01, D31, H00, I31, J28

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### **Background**

This paper provides a first contribution to a research agenda aiming to investigate the complex relationships existing between values, behaviour and the outcomes of choices. We are interested in exploring whether and how values relate to choice outcomes, and here we begin by treating behaviour as a black box: we simply concentrate on values (which we assume to be antecedents of behaviour) and outcomes (which we assume to coincide with life satisfaction) (Kahneman, 2000; Kahneman, et al, 1999) and use empirical evidence to make a variety of hypotheses that we hope will help guide further research.

The effect that values have on behaviour and outcomes has not been normally the focus of economists, who tend to rely purely on the outcomes of choices, and research on life satisfaction aiming to influence policy has implicitly relied on similar assumptions: for example, having observed that social activities increase overall life satisfaction, it is suggested that policy should increase time available for social activities and expected that people will take them up. This assumes either that values are perfectly aligned with what works best (complete consistency) or alternatively that these do not matter at all in determining behaviour which simply follows what works best (complete pragmatism). However, a key contribution of behavioural economics has been to show that preferences are reference dependent and loss averse, that is the carriers of utility are not evaluated states of wealth but rather gains and losses, with losses looming larger than gains (for an overview see Altman, 2006). Choice has also been shown to depend on the description and interpretation of decision problems, so that framing effects are present (Kahnemann and Tversky, 2000). This questions several assumptions regarding the theoretical construct of preferences and their relation to choice in rational choice theory, and widens the discussion to account for values, beliefs and attitudes formation.

Values have featured somewhat laterally in the literature studying the causes and correlates of life satisfaction (for an extensive recent review see Dolan et al 2008): most studies tend to concentrate on using measures of life satisfaction as the dependent variable and model the effects of various observable (demographic, socio-economic) and unobservable (such as personality) rather than specific values which have rather been assumed to be 'packages' associated with specific religious beliefs. The macro literature on national differences in life satisfaction refers to value systems using

broad concepts such as Hofstede's culture dimensions to explain observed differences between nations (Diener et al, 1999).

Our paper aims to address the connection between individual specific values and life satisfaction and asks to what extent what individuals say is important in life (a proxy for their values system) also corresponds to what is important in their overall life satisfaction. Is it true for example that if I say that my job is very important to me satisfaction with my job will also be very important in my overall life satisfaction? And will I take action according to the former (my belief that it is important) or the latter (the fact that satisfaction with my job increases my overall life satisfaction)?

In what follows we present a basic model of life satisfaction incorporating the basic assumptions of hedonic psychology work (Kahnemann, Diener and Swartz, 1999; Kahneman and Krueger, 2006) and along the lines of Rayo and Becker (2007). We then focus on the relationship between values and life satisfaction and use data from the British Household Panel Survey to test with different methods whether the importance given to different life dimensions corresponds to their importance in overall life satisfaction. In sum, the paper asks whether we are getting it right both as individuals (are outcomes of our choices aligned with our stated values?) and as researchers (are we recommending policies that are going to work in practice through individual responses?)

### **Life satisfaction and utility**

Much of the discussion in the literature on life satisfaction (or well being or happiness, which for the purposes of this paper are used interchangeably) has focussed on whether the latter does or does not provide a measure for utility: Kahneman and Krueger (2006) argue that life satisfaction measures an individual's perceptions of their experiences and not their utility as economists conceive it. However, they also report that, notwithstanding the existence of biases in retrospective evaluations (difference between experienced utility and remembered utility), the evidence suggests that choices are affected by remembered utility and not the profile of remembered experiences, which provides strength to the argument that life satisfaction analyses should be taken seriously for policy purposes (as in Layard, 2006). Clark et al (2008) present a thorough discussion of how happiness fulfils the requirements of utility of being a guide to individual choice (maximising the expected value of utility) and also a measure of the outcome of choice and chance factors not controlled by the individual but taken into account when making the decision. A key question our paper addresses is whether there are any differences between using values or life satisfaction as criteria for guiding choice, and what the empirical evidence on a sample of British households suggests they do.

The relationship between life satisfaction and choice is modelled by Rayo and Becker (2007) in the framework of agency theory, with agents using life satisfaction as a decision-making device to rank alternative options. When choosing, agents in their model face constraints on their perception sensitivity when ranking alternative choices and the values of life satisfaction are also bounded, which implies that they evaluate options in relation to each other, rather than in absolute terms. This leads agents' happiness to depend on the difference between their output and an endogenous reference point (ibid. p.306), which in turn is updated over time (through habituation and social comparison) producing the observed long term stability of mean happiness levels observed in the literature. Habit formation, peer comparison, prior expectations and the long-term mean stability of happiness are interpreted in this model as biologically founded traits which lead to evolutionary efficiency, and the evolutionary trial and error process itself is the model's principal.

Here we argue with Rayo and Becker, Kahnemann, and along the lines of hedonic psychology work (Kahnemann, Diener and Swartz, 1999) that life satisfaction is indeed a measure of a state of mind post-choice, but one that reflects the discrepancy between desired and experienced utility, and can

be expressed as a function, which we do not normally know and make assumptions on, of the difference between the two, so that the relationship between life satisfaction and utility takes the following form:

$$\text{Life satisfaction} = f(\text{Desired U, Actual U, Desired U} - \text{Actual U}) \text{ (Eq1)}$$

This has a number of consequences, the most important of which is that subjective evaluations come into play in both Actual U and Desired U, and that choice may or may not be able to close the gap between them. The quest for happiness is precisely that of bringing reality closer to one's dreams, with different constraints operating at the actual (e.g. income) and desired (e.g. desire to conform to role expectations) level.

Adaptation and social comparison operate on this difference in different directions: the first brings desired and actual utility closer to each other making people happier with the status quo and therefore decreasing gains in happiness from changing it. The second can either bring them together or drive them apart, depending on the lot of the relevant reference group and on personality. Thus it is found, for instance, that over a longer period disabled individuals do not have significantly lower life satisfaction than those who have no disability (Oswald and Powdthavee, 2008), and the unemployed are likely to have higher life satisfaction when regional unemployment is high because they are less likely to interpret their unemployment as a personal failure (Kalyuzhnova and Kambhampati, 2008; Clark and Oswald, 1994). Individual effects have been analysed at the panel level by Clark and Oswald (2002), who have decomposed fixed effects on General Health Questionnaire happiness scores (rather than overall life satisfaction) across the British Household Panel Survey (BHPS, see for information UK Data Archive). Personality differences may also affect the individual propensity for comparison (see Ash and Dowling, 2007).

On the basis of a rational action model, we argue that desired utility can be described as preferences or values: this is simply equivalent to saying that we aspire to realise certain goals dictated by what we believe in, under a variety of external (e.g. income) and internal (e.g. psychological factors) constraints. Further to this, we expect that values are relatively sticky, that is they hold stable for longer periods of time than actual utility happiness does, given that the latter varies with a number of constantly changing individual circumstances.

We propose that it is possible to obtain estimates of desired utility (through values proxies), and of happiness (through self reported life satisfaction scores), but that actual utility cannot be measured directly and possibly not derived through equation 1 either, as the function linking them is individual (adaptation and social comparison propensities may be individual, as shown by Ash and Dowling, 2007). This does not diminish the importance of measuring and using happiness scores to inform public policy, but it opens interesting questions as to what welfare maximizing policy makers should do: if they aim to maximize happiness they may want to for example address the happiness consequences of the gender pay gap and the unequal division of domestic labour by promoting machist values persuading women that it is right for them to be paid less than men and do all the housework, thereby increasing their adaptation and their happiness.

Conversely, the capability approach (see Nussbaum, 2000) favoured by feminist economists suggests that policy makers ought to maximize actual utility, that is remove constraints to the realization of individual potential (as well as address values). In practice, the effect on overall happiness scores of the two approaches may be the same, but in capabilities or actual utility terms they clearly differ.

## Life dimensions, values and life satisfaction

As life satisfaction is observed and measured in different life dimensions (health, job, social life, etc.), we assume that the generic functional form linking desired and actual utility in  $n$  different life dimensions is the same as the one that links them overall. This hypothesis does not appear to be too restrictive for the moment, as it simply states that the way in which satisfaction is obtained, once desires and experience are considered, is the same across life domains which seems consistent with studies of the physiological processes associated with the computation of utility (Ito and Cacioppo, 1999). We thus re-write equation 1 as:

$$\text{Life satisfaction}_{Ln} = f(\text{Desired } U_{Ln}, \text{Actual } U_{Ln}, \text{Desired } U_{Ln} - \text{Actual } U_{Ln}) \quad (\text{Eq2})$$

We assume that the desired relative utility from different life dimension is captured by the relative importance attributed to the same life dimension (a proxy for people's values), and thus can re-write Equation 2 as:

$$\text{Life satisfaction}_{Ln} = f(\text{Imp}_{Ln}, \text{Actual } U_{Ln}, \text{Imp}_{Ln} - \text{Actual } U_{Ln}) \quad (\text{Eq3})$$

In what follows we firstly assess the relationship between values and life satisfaction in different life dimensions, and then turn to the problem of aggregating dimensions into overall life satisfaction. We use data from the British Household Panel Survey, specifically information from the year 1998 (wave 8), which contains information from 10,548 respondents over 16 years of age from 5939 households. Wave 8 is appropriate to our study since it contains specific questions relating to the importance of different life dimensions, as well as the level of satisfaction with them. Wave 8 provides us with information on overall life satisfaction, on a group of life dimensions (health, income, house, partner, job, social life, and amount and use of leisure time) as well as on the relative importance of some of the same life dimensions (list imp variables), but not all. In what follows we consider life satisfaction scores as proxies for happiness and scores on what people say is important as proxies for desired utility. We firstly investigate their relationship to find the life dimensions in which the two measures are further apart. Then we make simplifying (but consistent with preferences aggregation theory) assumptions on the functional form in equation 1 and assess the importance of these dimensions in overall life satisfaction. In doing so, we want to see whether we are 'getting it right': are our values broadly consistent with what makes us happy or not? In the final section of the paper we discuss why this matters from a theoretical and policy perspective.

Table 1 below presents life dimensions ranked in decreasing importance by average scores across respondents and contrasts them with the means of life satisfaction in the same life domains. In doing this exercise, we are implicitly assuming that when asked to rank the importance of a life dimension in the context of a series of questions on several life dimensions respondents implicitly rank the options relative to each other, and they do the same when awarding life satisfaction scores to those dimensions. As can be seen, health, social life and to a lesser extent job are all providing relatively lower satisfaction than aspired to (as indicated by their relative importance), whilst house and partner provide relatively higher life satisfaction. Income appears to be the only dimension in which average values and life satisfaction scores correspond.

**Table 1: comparison of ranks of importance of and weights of life dimensions**

Dimensions $L_n$	Mean value importance dimension $\mu(\text{Imp}L_n)$	Ranks importance dimensions $R\mu(\text{Imp}L_n)$	Mean value life satisfaction with dimension $\mu L_n$	Ranks of lifesat with $R\mu L_n$	Difference in ranks $R\mu(\text{Imp}L_n) - R\mu L_n$
Health	9.55	1	5.10	3	-2
Social	9.26	2	5.05	4	-2
Partner	9.09	3	6.27	1	2
Job	7.91	4	5.04	5	-1
House	7.69	5	5.45	2	3
Income	6.40	6	4.59	6	0

There are a number of possible explanations for the observed discrepancies: they may be connected to questionnaire design (i.e. the context in which the questions are asked); they may also indicate that respondents always lie about what is important and about how happy they are with various aspects of life. In both these first two cases we cannot infer much from our results, so let us accept that the questionnaire is well designed and that respondents are not systematically lying.

What we find indicates that there may be difficulties in realising one's aspirations in some domains, either because of actual large differences between ideal and actual situations or a difficulty in adaptation: are our health and social life never really very good or are we being unrealistic in our expectations of them? Conversely, our houses and partners appear to be doing better than we would expect them to: are our dwellings and relationships surprisingly better than we think or are we happy to get by with what we have found? In other words: are our values regarding life dimensions more or less aligned with the outcomes of our (constrained) decisions?

To address this question we now turn to the role of different life dimensions in overall life satisfaction: if we find that the dimensions on which discrepancies between actual and desired utility are high (or in which adaptation is low) are also very important to overall life satisfaction this may provide further evidence of non-alignment, if we find the opposite we may conclude that we are broadly getting it right.

### Life dimensions and life satisfaction

We pose the relationship between overall life satisfaction and satisfaction with different life dimensions as in Lancaster's theory of consumer utility, according to which the overall utility achieved consuming a good depends on the utilities associated with the different good's characteristics (Lancaster, 1966). We thus suggest that people aggregate up their satisfaction with various dimensions of life in an overall life satisfaction index. We assume for the moment that individuals add these dimensions linearly, and as we do not know whether we have all the components of life that provide overall life satisfaction and as these may vary between individuals, we assume that in our sample overall life satisfaction for an individual  $i$  can be written as:

$$\text{Lifesat}_i = \alpha_{i1}L_1 + \alpha_{i2}L_2 + \dots + \alpha_{iN}L_N + \varepsilon_i \quad (\text{Eq4})$$

Where  $L_n$  indicates satisfaction with a particular dimension of life (e.g. health) and measures the difference between the actual and the desired situation in that particular life dimension,  $\alpha_{i1}$  indicates the relative importance of this dimension to the individual, and  $\varepsilon_i$  is an error term capturing all the other dimensions the individual values in their overall life satisfaction for which we have no information. We now estimate equation 4 above in our sample to obtain the average weights  $a_n$ , and

the individual residuals  $e_i$ . The ranks resulting from the ordered probit estimation of overall life satisfaction are reported in table 2 below, in the first column labelled  $Ra_n$ .

Table 2 below shows us that when considering the weight given to satisfaction with a particular life dimension in overall satisfaction some of the discrepancies between desired utility (values) and life satisfaction decrease in magnitude (see column 3 below), so that when looking at the discrepancies between weights and values (column 5 below) we find that on average across our sample income is the life dimension on which we are less ‘aligned’: our sample’s values suggest people give income less importance than it actually has in determining overall life satisfaction, as they do to a lesser extent with respect to social life and house. Conversely, partners and jobs have lower weights in overall life satisfaction than in people’s values.

**Table 2: Average alignment between values and life satisfaction**

<b>Dimensions</b>	<b>1. Ranks of weights in overall lifesat <math>Ra_n</math></b>	<b>2. Ranks of lifesat with <math>R\mu L_n</math></b>	<b>3. Dimension gain (Col 2-1) <math>R\mu L_n - Ra_n</math></b>	<b>4. Initial Difference with value ranks <math>R\mu(Impl_n) - R\mu L_n</math></b>	<b>5. Compensation (Col 3+4) <math>R\mu(Impl_n) - Ra_n</math></b>
Partner	5	1	-4	2	-2
Job	6	5	-1	-1	-2
Social	1	4	3	-2	1
Health	2	3	1	-2	-1
Income	3	6	3	0	3
House	4	2	-2	3	1

So what does this tell us? It suggests that values and outcomes are not very well aligned (we don’t get it right very much). What does this mean for policy? If people use relative happiness scores to guide their behaviour (a la Layard and Clark et al), should more time be made available to them to spend as they wish they would probably spend it searching for higher incomes, nicer houses and socialising. Conversely, if they behave according to values they will work more and spend more time with their partners. This clearly leaves us needing to understand more about the incentives people respond to before we can predict the effect of policy.

## Individual effects

Estimating equation 4 allows us also to obtain individual residuals, which we can use to see the relationship between individual characteristics and the discrepancy between values and life satisfaction. Table 3 below reports results of modelling the residuals of our ordered probit of overall life satisfaction on a series of correlates of happiness commonly used in the literature. Coefficients in bold are significant.

**Table 3: residuals regression**

		Coeff.	Std.Err.	t-ratio	P-value
	ONE	<b>0.632</b>	0.011	59.801	0.000
Sex of respondent	HSEX	-0.004	0.005	-0.812	0.417
Race of respondent: white or other	WHITE	-0.001	0.010	-0.127	0.899
Whether respondent has disability	DISABLED	0.020	0.023	0.867	0.386
Whether respondent married	MARRIED	<b>0.017</b>	0.005	3.611	0.000
Whether respondent jointly responsible with partner for childcare	JOINRESP	<b>-0.030</b>	0.008	-3.708	0.000
Whether childcare done by others	OTHRESP	-0.042	0.038	-1.114	0.265
Whether respondent holds any qualifications	NOQUAL	<b>0.040</b>	0.007	5.495	0.000
Whether respondent holds university education or not	UNIVEDU	-0.009	0.005	-1.803	0.071
Whether employed or not	UNEMP	0.036	0.038	0.962	0.336
Number of hours normally worked per week	WORKHRS	0.000	0.000	-0.873	0.383
Usual pay	HPAYU	0.000	0.000	-0.713	0.476
Financial situation: doing all right	HFISITC2	<b>-0.026</b>	0.006	-4.735	0.000
Trust others: most people can be trusted	TRUST1	0.000	0.005	0.051	0.959
Talks to neighbours most days	HFRNA1	<b>0.020</b>	0.006	3.205	0.001
Talks to neighbours once or twice a week	HFRNA2	0.001	0.006	0.199	0.842

The variables we find correlating with our estimated discrepancy include: being married, being jointly responsible for childcare, not having qualifications, doing all right financially compared to previous year, and having regular contact with neighbours. Alas, most people in the sample have these characteristics, so does the discrepancy matter to individuals? Overall happiness scores are on average quite high (87% of the sample report being quite satisfied or more, and 80% are as satisfied or more than last year), which suggests that people are somehow dealing with the misalignment. One explanation may be that they simply experience cognitive dissonance as in Akerlof and Dickens (1982): that is they deploy strategies to validate their choices ex post that are relatively independent of the outcomes of their choices. There may be others: as stated at the outset, this is a modest attempt to address the relationship between values and outcomes, but one that has hopefully shown that more work needs to be done to understand it in order to improve both the microfoundations of economic models of human behaviour, and the effectiveness of the policy prescriptions that are derived from them.

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