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## Subjective measures of well-being

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Discussion Paper No. 2004/07

## **Subjective Measures of Well-being**

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### **Abstract**

This paper deals with three questions: (1) What are 'subjective' measures? (2) What is 'well-being'? and (3) Are subjective measures of well-being of use for policymaking, in particular in developing nations?

The first question is answered by making a distinction between two kinds of 'subjectivity': subjective substance and subjective assessment. On that basis nine types of indicators are discerned, varying in degree of subjectivity.

The second question is answered by discerning four kinds of well-being. Examples are presented of indicators for each of these well-being variants. It is argued that there is little sense in combining these variants in one sum-score of overall well-being, since this involves adding apples and oranges. The much-used Human Development Index is rejected on that ground.

In answer to the third question a case is made for subjective measures of well-being, in particular for using 'happy life years' as an indicator of final policy effectiveness.

**Keywords:** well-being, objective, subjective, measurement, quality of life, worth, happiness adjusted life years

**JEL classification:** I31, I32, D19, D78

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There is a longstanding controversy in social indicators research between the ‘objective’ and the ‘subjective’ approach. In the objective approach the focus is on measuring ‘hard’ facts, such as income in dollars or living accommodation in square meters. The subjective approach in contrast considers ‘soft’ matters such as satisfaction with income and perceived adequacy of dwelling. The objective approach has roots in the tradition of social statistics, which date back to the nineteenth century. The subjective approach stems from survey research, which took off in the 1960s. The objective approach is similar to mainstream economic indicators research, though the topics differ, the method is the same. The subjective approach is akin to the psychological stream found in economic indicators research, which monitors things like consumer trust (Katona 1975) and subjective poverty (VanPraag, Goedhart, and Kapteyn 1980).

The subjective approach originates from the US. Landmark studies have been published by Campbell, Converse, and Rodgers (1975) and by Andrews and Withey (1976). This approach is further refined in the German ‘welfare studies’ (Glatzer and Zapf 1984). Specializations have been developed on subjects such as perceived poverty (VanPraag, Goedhart, and Kapteyn 1980), values (Inglehart 1990), and happiness (Veenhoven 1997).

## **1 WHAT ARE ‘SUBJECTIVE’ MEASURES?**

At first sight, the distinction between ‘objective’ and ‘subjective’ indicators is fairly clear. Yet when a closer look is taken there are two dimensions of difference.

First there is a difference in *substance* matter measured. Objective indicators are concerned with things, which exist independent of subjective awareness. For instance: someone can be ill in an objective sense, because a tumor is spreading in the body, without that person knowing. Likewise, Marxists maintain that workers are objectively underclass people, even if they see themselves rather as middle class. Both the doctor and the Marxist give more weight to the objective condition and will press for treatment even if the patient protests.

Second, there is a difference in *assessment*. Objective measurement is based on explicit criteria and performed by external observers. Illness can be measured objectively by the presence of antigens in the blood, and class membership by possession of means of production. Given these operational definitions, any impartial observer will come to the same conclusion. Yet subjective measurement involves self-reports based on implicit criteria. The ignorant cancer patient who reports to feel in good health may have based that appraisal on many cues and will not be really able to say how he came to that appraisal. The worker with false class-awareness fails to notice the whole point.

These examples show that the differences in substance and measurement do not necessarily concur. The possible combinations are presented in Figure 1.

Figure 1 Objective-subjective difference: basic configurations

<b>Substance</b>	<b>Assessment</b>	
	<i>Objective</i>	<i>Subjective</i>
<i>Objective</i>		
<i>Subjective</i>		

Source: Veenhoven 2002

The two top quadrants concern objective substance matters. The quadrant top left denotes the combination of objective substance and objective measurement. An example is the actual ‘wealth’ of a person when measured by her bank account. The top right quadrant also concerns objective substance, but now measured by self-estimate. An example is measuring wealth by perceived wealthiness.

The two bottom quadrants in Figure 1 concern subjective matters, such as identity, happiness and trust. The bottom left quadrant combines subjective substance with objective measurement. An example is measuring happiness by suicide. The bottom right quadrant measures subjective substance using subjective appraisal, for instance, measuring happiness by self-report.

The shading indicates the degree of subjectivity in Figure 1, the darker the field, the more subjective the indicators it denotes.

The reality of social indicators research is more complex than these two dichotomies suggest. The substance of indicators cannot always be classified as either ‘objective’ or ‘subjective’ and the methods of measurement do not always fit this dichotomy either. Insertion of a *mixed* category on both axes results in the 3 by 3 classification of Figure 2. The numbers in the cells reflect the position on the joined objective-subjective range, the higher the number, the more subjective this kind of indicator.

Figure 2 Objective-subjective differences; elaborate configurations

<b>Substance</b>	<b>Assessment</b>		
	<i>Objective</i>	<i>Mixed</i>	<i>Subjective</i>
<i>Objective</i>	<b>1</b>	<b>2</b>	<b>3</b>
<i>Mixed</i>	<b>4</b>	<b>5</b>	<b>6</b>
<i>Subjective</i>	<b>7</b>	<b>8</b>	<b>9</b>

The following indicators of health can exemplify this classification.

*Type 1:* Illness revealed by symptoms such as weight loss or biochemical tests

*Type 2:* Illness diagnosed by a doctor on the basis of a patient's complaints.

*Type 3:* Perception of being ill by one-self (possibly without feeling sick)

*Type 4:* Being and feeling ill as apparent in sickness behaviors such as absenteeism and doctor visits

*Type 5:* Being and feeling ill measured by a health questionnaire that involves both perceptions of functional health and health complaints

*Type 6:* Being and feeling ill as reported directly by a person

*Type 7:* Feeling ill as apparent in consumption of relief drugs, such as painkillers or tranquilizers

*Type 8:* Feeling ill measured by a sickness complaint inventory

*Type 9:* Feeling ill measured by response to a single question on how fit or sick one feels

## 2 WHAT IS 'WELL-BEING'?

The term 'well-being' denotes that something is in a good state. The term does not specify what that something is and neither what is considered 'good'. So, it is a typical catchall term without a precise meaning, like words such as 'progress' and 'welfare'. This notion can be specified in two ways: first by specifying the 'what' and second by spelling out the criteria of 'well'ness.

### 2.1 Well-being of *what*?

The term is used for social systems and for individual beings. This difference is often left implicit and used for suggesting that what is good for society is also good for citizens. The focus of this UNU-WIDER research project is on 'human well-being' hence on the well-being of individuals. In that sense the term 'well-being' is synonymous with 'quality-of-life'.

### 2.2 What is being *well*?

Sometimes, the term 'well-being' is used as a generic for all the good. Yet mostly, the word is used for specific varieties of goodness. The main meanings are presented in Figure 3.

The classification of meanings in Figure 3 depends on two distinctions. Vertically there is a difference between *chances* for a good life and actual *outcomes* of life. Chances and outcomes are related, but are certainly not the same. This distinction is quite common in the field of public-health research. Pre-conditions for good health, such as adequate nutrition and professional care are seldom confused with health itself. Yet means and ends are less well distinguished in the discussion on well-being.

Horizontally there is a distinction between *external* and *internal* states of being. In the first case the wellness is in the environment, in the latter it is in the individual. This distinction is also quite commonly made in public health. External pathogens are distinguished from inner afflictions, and researchers try to identify the mechanisms by which the formers produce the latter. Yet again this basic insight is lacking in many discussions about well-being.

Together, these two dichotomies mark four different concepts of well-being, which are explained below.

Figure 3 Four kinds of being 'well'

	<i>Outer qualities</i>	<i>Inner qualities</i>
<i>Life-chances</i>	<b>Living in a good environment</b>	<b>Being able to cope with life</b>
<i>Life-results</i>	<b>Being of worth for the world</b>	<b>Enjoying life</b>

Source: Veenhoven (2000)

### *Quality of the environment*

The left top quadrant denotes the meaning of good living conditions. Sociologists use the word 'well-being' mostly in this sense. Economists sometimes use the term 'welfare' for this meaning. Ecologists and biologists also use the term 'livability' in this context, and then refer to the suitability of an environment for a particular species.

Politicians and social reformers typically stress this concept of well-being. In their use of the word they typically refer to pre-conceptions of what a good living environment is like, such as a good standard of living and social equality.

### *Life-ability of the person*

The right top quadrant denotes inner life-chances. That is: how well we are equipped to cope with the problems of life. Psychologists typically use the word well-being in this sense. Also this variant is known by different names. In the medical profession this matter also called 'health' in the medium variant of the word.<sup>1</sup> Biologists name it 'fitness'. Sen (1993) calls this variant of well-being 'capability'.

This concept is central in the thinking of therapists and educators, the former associate the term with public health, the latter with schooling.

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<sup>1</sup> There are three main meanings of health: The maxi variant is all the good (WHO definition), the medium variant is life-ability, and the mini-variant is absence of physical defect.



### *Worth for the world*

The left bottom quadrant represents the notion that a good life must be good for something more than itself. This presumes some higher value, such as ecological preservation or cultural development. In fact, there is a myriad of values on which the worth of a life can be judged. There is no current generic for these external turnouts of life. Gerson (1976: 795) referred to these kinds as ‘transcendental’ conceptions of well-being. Another appellation is ‘meaning of life’, which then denotes ‘true’ significance instead of mere subjective sense of meaning.

Moral advisors, such as your pastor, emphasize this kind of well-being.

### *Enjoyment of life*

Finally, the bottom right quadrant represents the inner outcomes of life. That is the well-being in the eye of the beholder. As we deal with conscious humans, this quality boils down to subjective appreciation of life. This is commonly referred to by terms such as ‘satisfaction’ and ‘happiness’.

There is no professional interest group that stresses this meaning. Yet this concept is central in utilitarian moral philosophy, which seems to revive nowadays (Veenhoven 2004a).

## **3 MEASURES OF WELL-BEING**

Using the distinctions of Figure 2 and 3 I can now provide a systematic overview of measures of well-being. Below I will skirt along the quadrants of Figure 3 and consider for each of these concepts, which measurement methods of Figure 2 apply. Though the focus of this paper is on subjective indicators, I will also mention objective indicators, since this helps to place the subjective ones in context.

### **3.1 Indicators of quality of the environment**

Starting left on top of Figure 3 I begin with well-being in the sense of living in good conditions. How can that kind of well-being be measured? Substantially, this is an objective matter, since the environment is something that exists independent of personal perceptions. Following Figure 2 we can then distinguish three measurement methods: type 1, 2, and 3. Below I give examples of each of these. When considering the indicators used for measuring the quality of the environment I will distinguish between indicators that refer to specific qualities and indicators of overall quality.

### **3.2 Specific qualities**

The living environment has many aspects, physical aspects, economic aspects, and social aspect. Each of these aspects can be judged by several standards; for example, the social environment can be evaluated for the safety it provides, for the freedom it allows, and for the fairness it achieves. As I cannot review all these matters, I will suffice with

the example of ‘social equality’. This aspect of objective well-being can be measured in the following ways.

#### *Type 1 indicators*

Objective measurement of social inequality requires that impartial outsiders assess difference in access to scarce resources among members of a society. Typically this boils down to difference in income, which is assessed using national income statistics that draw on registrations of taxes and salaries. Other indicators of this kind involve difference in access to education or medical care in a country.

#### *Type 2 indicators*

Since income statistics have many limitations, the distribution of incomes in a country is also assessed by means of questionnaires. This brings subjective element into this otherwise objective assessment, especially when income is assessed by global questions. The Luxembourg Income Study is an example of this approach.

Another example of mixed measurement of social inequality is considering inequality in subjective outcomes of life. In that context, I have proposed to measure social inequality in nations by the dispersion of life-satisfaction in representative samples of the general population (Veenhoven 2003). An advantage of that method is that it covers all relevant resources, and not just the few ones that are easily measurable and deemed relevant. Other advantages are that this indicator of social inequality is well comparable across time and nations. A disadvantage is that the causes of inequality remain in the dark.

#### *Type 3 indicators*

A purely subjective assessment of social inequality is asking people how much inequality they think there is in their country. An advantage of this approach is that such perceptions also reflect less palpable differences in access to scarce resources than just income. A disadvantage is that perceptions may be incorrect and that the public discussion about social inequality may influence the perception of this reality.

### **3.3 Overall quality**

Likewise we can discern three ways to assess the overall quality of living conditions.

#### *Type 1 indicators*

The objective approach is adding together registration based indices of quality of living conditions. This is practiced in several indexes of well-being, such as Estes’ (1984) ‘Index of Social Progress’ and Slottje’s (1991) index of ‘quality of life’ in nations. Such indexes involve indicators of material affluence, safety in the streets, political stability, rule of law, unemployment, etc. Indexes of this kind are also used for local living conditions. An example is Liu’s (1977) index for quality of life in metropolitan areas.

Though commonly used, this type of indicator is very questionable. One problem is that such indexes cannot cover all relevant issues, and that the weighing of items in these

indexes is quite arbitrary. Another problem is that the relevant qualities of an environment depends to some extent on the capabilities of its inhabitants; living in a free society may be beneficial for well educated autonomous people, but possibly not for dumb conformists. I have discussed the limitations of these indexes in more detail elsewhere (Veenhoven 1996b, 2000).

### *Type 2 indicators*

Several indicators combine such registration-based indices of quality of living conditions with subjective satisfaction with these conditions. An example is Rogerson's (1997) measure of quality-of-life in British counties. That measure considers ten environmental attributes, such as 'cost of living', 'pollution', and 'shopping facilities' and then weights these qualities by public opinion about their importance.

The overall quality of an environment can also be measured indirectly, by considering how well people thrive in it. When people flourish in an institution or in a country the quality of that environment is apparently sufficient, though not necessarily ideal. In that vein I have proposed to measure the livability of societies by the average happiness of its citizens (Veenhoven 1995, 2000). This is a mixed measure, since subjective information is used in an objective way; it is an interpretation of self reported happiness that goes beyond the individuals awareness, just like a doctors diagnosis add to the patients complaints.

### *Type 3 indicators*

An example of a purely subjective assessment of the overall quality of one's environment is asking people to rate the quality of their town or country. This common practice in surveys on the 'best place to live' and in questionnaire studies on the quality of life provided by institutions, such as the army or old age homes. This approach also avoids the preconceptions of type 1 measures. Yet a major disadvantage is again that perceptions may be false. People may be unaware of shortcomings of their living environment, due to misinformation or defensive denial.

## **4 INDICATORS OF ABILITY TO COPE WITH LIFE**

This kind of well-being is depicted by the top-right quadrant in Figure 2. Life-ability can be thought of as an entirely objective substance, someone being capable or not, independent of how capable one thinks one is. As such it can be measured again by indicators type 1, 2, and 3.<sup>2</sup> Like in the case of the environment, we can again distinguish between indicators of specific capabilities and estimates of overall life-ability. In this context I will also make a distinction between indicators of the well-being of separate individuals and social indicators for the well-being of collectivities, such as citizens of a country.

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<sup>2</sup> One can also think of life-ability as involving some self-confidence. In that case we deal with a substantially mixed concept that can be measured using indicators type 4, 5, and 6.

## 4.1 Specific capabilities

Being ‘well’ in this sense involves many capabilities, both physical and mental. Good physical ability entails absence of obvious dysfunction in the first place, often referred to as ‘health’, but may also call for positive ‘eu-functioning’, as exemplified in endurance or motor skill. Mental abilities concern intellectual capability, emotional control and various social skills, such as empathy and assertiveness. I will not try to review all the indicators of all capabilities, since this would cover the entire test-psychology. Let me suffice with the example of ‘intelligence’.

### *Type 1 indicators*

Intelligence can be measured objectively by means of ‘tests’ of performance in standardized tasks, mostly in a paper and pencil format. Intelligence tests entail samples of intellectual capabilities such as counting, memorization and verbal logic. Intelligence is also assessed by real life performance, such as by educational achievement and success at work.

These individual level indicators can be aggregated to the nation level. Average scores on intelligence tests are commonly compared across nations and over time. In a similar way, the level of literacy is used to assess this kind of well-being in nations.

### *Type 2 indicators*

Emotional intelligence is typically measured in another way. Since performance in emotional tasks is not immediately visible for an outsider common EQ-tests draw on self-ratings. Typical items are: ‘How well do you get along with your family?’ and ‘Do you feel you understand what is going on in other people?’ The objective element in these ‘tests’ is in the selection and weighing of items, which sometimes depends on their predictive power.

Average scores on such indicators can also be used to compare across social categories and nations and for trend analysis. To my knowledge this is not common practice.

### *Type 3 indicators*

A purely subjective indicator of intelligence is a simple self-rating, for instance the answer to the question ‘Do you feel you are smarter than most people of your age? Much smarter, a bit smarter, about equal, a bit less, much less’.

A common result with such measures is that most people think that they are better than average (Headey 1988). This sense of relative superiority is commonly attributed to self-serving bias, but it may also be due to under-estimation of others due to selective publicity. Whatever the reason, this pattern of response makes this kind of indicator less suitable for comparison across nations and through time.

## 4.2 Overall life-ability

Comprehensive capability cannot really be ‘measured’ but can to some extent be ‘estimated’. This is done in the following ways.

### *Type 1 indicators*

The objective way would seem to aggregate scores on tests of various capabilities. This approach can yield informative capabilities ‘profiles’ but not a meaningful sum-score. The same objections as brought in against indexes of environmental quality apply also in this case. Performances on different skills cannot meaningfully be summed and the capabilities life calls for depend on environmental demands.

In restricted settings, such as mental hospitals, one can also assess capability by behavioral observation. Trained observers or attendants then rate the patient’s ability to deal with the problems of daily life. Various rating systems are used for this purpose. This method can work if required capabilities are fairly unequivocal, which is mostly the case in such settings.

### *Type 2 indicators*

Such neutral estimates of life-ability are often completed with self-reports. This is common practice in psychological measurement, especially in estimates of overall ability. Since measurement involves mostly interviews it is difficult to ignore the subjects self-appraisal.

### *Type 3 indicators*

A purely subjective measure is someone’s self-estimate of capability. This is commonly measured by responses to questionnaire items on self-reliance and self-confidence. When such items figure in nationwide surveys, the mean can serve as an indication of the competence of the average citizen.

As noted, some conceptions of life-ability involve both objective and subjective elements. A good example is the concept of ‘positive mental health’ as described by Jahoda (1952). Objective elements in that capability syndrome are ‘adequate perception of reality’ and ‘integration’ of personality. Subjective features are ‘self-confidence’ and ‘liking’ of other people. This mixed concept can be measured using indicator types 4, 5, and 6.

## **5 INDICATORS OF WORTH FOR THE WORLD**

Let me now consider the well-being concept denoted by the bottom-left quadrant in Figure 3. This view on well-being stresses the consequence of a life. This notion is not very prominent in the social policy discourse and therefore remained marginal in social indicators research also. It is a greater issue in the discussion about the meaning of life in philosophy and in existential psychology. For the sake of completeness I will nevertheless review the possible indicators of this matter.

Substantively, this kind of well-being is ‘objective’. The concept is about the actual effects on the environment, not about illusions on that matter. So the possible indicators are again of the types 1, 2, and 3. Measurement is quite difficult in this case, since it is mostly difficult to get an idea about the effects a life, in particular effects on the wider environment.

## **5.1 Aspects of worth**

The worth of a life for its environment can be judged in many ways. One can consider the long-term effects on the ecosystem and on society, or limit to short-term worth for one's business or family. I will illustrate this point with indicators of environmental damage, which emerged from current discussions about sustainable development.

### *Type 1 indicators*

An objective measure of this objective substance is the 'ecological footprint', that is, the amount of non-renewable resources consumed. At the nation level this is typically estimated using statistical data about sales of materials. An example can be found in the *Living Planet Report* (WWF 2002).

### *Type 2 indicators*

The ecological footprint can also be measured at the individual level, using questionnaires and consumption diaries. This objective matter is then measured with subjective data. These individual level scores can be aggregated to the nation level in principle, provided that these data can be raised in representative samples of the general population.

### *Type 3 indicators*

Using up non-renewable resources is also estimated by simple self-ratings. Since this is difficult to judge I see little value in such ratings.

## **5.2 Overall worth of life**

It is easier to think of overall worth of life than to actually strike a balance of effects. This notion is in fact hardly measurable. Still some attempts have been made.

### *Type 1 indicators*

To my knowledge there have been no attempts to measure overall worth at the individual level by summing objectively a measurable value to the world, such as good citizenship and cultural innovations. Yet such indicators are being used at the nation level. An example is Naroll's (1984) estimates of national contribution to the progress of science and international peace.

### *Type 2 indicators*

The worth of life has also been assessed using questions about perceived contributions of one's life to several causes. Chamberlain and Zika (1988) review some of the questionnaires of that kind. Again the objective element in this method measurement is that the investigator selects the aspects of worth and determines the weights. It is difficult to ascertain whether these scales reflect perceived worth of life or satisfaction with that perception.

### *Type 3 indicators*

The most subjective measure is asking people how useful all in all they think that their life is. Yet the problem with such questions is that people hardly know and that the responses are therefore likely to be guided by other cues, such as their enjoyment of life.

## **6 INDICATORS OF SATISFACTION WITH LIFE**

The bottom-right quadrant in Figure 3 denotes personal appreciation of life. That kind of well-being is substantially subjective. As such, the assessment methods 7, 8 and 9 from Figure 2 apply. Below I mention examples of each of these indicator types, again first for satisfaction with aspects of life and then for satisfaction with life-as-a-whole.

### **6.1 Aspects of life**

Subjective appreciation can concern different domains of life, such as work, family, or leisure. Satisfaction can also concern specific qualities of life, such as its comfort or its challenge. In fact people appraise life in numerous ways and often combine aspect appraisals in multifarious notions such as ‘loneliness’. A good overview of domains and criteria is found with Andrews and Withey (1976). Here I suffice with the example of ‘job-satisfaction’.

### *Type 7 indicators*

Since job-satisfaction is a mental state it is not well observable for an outsider. Still job-satisfaction can to some extent be inferred from objectively observable behaviors, such as strikes, job-hopping, absenteeism, and productivity. These indicators are used at the individual level and for aggregates. An obvious weakness of this method is that behavior depends on more things than mere satisfaction.

### *Type 8 indicators*

An example of mixed objective and subjective measurement is found in common job-satisfaction ‘scales’. These questionnaires ask about multiple aspects, such as perceived job-security, the quality of contacts with colleagues, difficulty of work tasks, days sick, interest in other jobs, etc. A current scale of that type is the Job Descriptive Index (Smith, Kendall, and Hulin 1969). This kind of indicator draws on subjective information, but processes that information in an objective way, by computing a sum-score in some way.

### *Type 9 indicators*

The most subjective measure of job-satisfaction is simple self-reports, such as an answer to the question ‘Taking everything into consideration, how do you feel about your job as a whole?’ (Warr, Cook, and Wall 1979).

## 6.2 Life-as-a-whole

Subjective appreciation of one's life-as-a-whole is called 'life-satisfaction' or 'happiness'. This matter is also measured by indicators type 7, 8, and 9.

### *Type 7 indicators*

Suicide is sometimes used as an objective indicator of life-satisfaction, both at the individual level and at the nation level. Life-satisfaction is also inferred from other behavioral indications of despair, such as alcoholism and political extremism.

Many of such indicators are combined in Lynn's index of distress in nations. That index sums incidence rates of the following rates: (1) consumption of stress related stimulants, such as tobacco, coffee, and alcohol, (2) incidence of risky behaviors like accidents, crime, and murder, (3) mental disorders as measured by hospitalization for psychosis, (4) deviant behavior like divorce and illegitimate birth, and (5) despair as apparent in suicide (Lynn 1971, 1982).

Elsewhere I have inspected the correlation of such conducts with self-reported life-satisfaction and found that these are mostly weak (Veenhoven 1993: chapter 5).

### *Type 8 indicators*

There are several kinds of mixed measures of life-satisfaction. One is inferring satisfaction from behavioral intentions, such as plans to leave the country or suicidal ideation. Such questions are often part of wider happiness 'tests' which also involve items about things deemed related to happiness, such as having plans for the future, seeing meaning in life and thinking to be happier than average. A much-used questionnaire of that kind is the Neugarten, Havinghurst, and Tobin (1961) Life Satisfaction Index. That approach has several flaws. One is that such sum-scores lack clear conceptual meaning; it is often unclear whether such questionnaires tap happiness or broader notions such as 'adjustment' or 'optimism'. A related weakness is that the things deemed related to life-satisfaction do not always go together with it. For instance, not all happy people make plans and are optimistic. Further such measures introduce contamination in correlational analysis; if goal-orientation is part of the happiness indicator one cannot investigate the relation between happiness and goal-orientation with that measure.

Another kind of mixed indicator departs from the type 9 subjective self-reports of life-satisfaction, and combines these with objective data. One example is my 'Happiness Adjusted Life-Years'. Analogous to "Disability Adjusted Life Years (DALY's)", this measure combines subjective happiness with objective longevity (Veenhoven 1996b). This measure can be used at the individual level as well as at the nation level. Another composite of this kind is 'Equality Adjusted Happiness', which is computed by dividing average life-satisfaction in a nation by the standard deviation (Veenhoven 2003). This measure applies only at the societal level.



### Type 9 indicators

The most subjective way of measuring subjective satisfaction with life is simply asking people how much they enjoy their life as a whole. A common item used in the World Value Surveys (n.d.) is:

‘All things considered, how satisfied are you with your life-as-a-whole now?’									
1	2	3	4	5	6	7	8	9	10
Dissatisfied									satisfied

Such questions can be framed in several ways, using different keywords, time frames and response formats. The World Database of Happiness (n.d.) contains an ‘Item Bank’, which provides a good overview of the questions used for this purpose.

## 7 INDICATORS OF OVERALL WELL-BEING

So much for the indicators of the separate well-being concepts delineated in Figure 3. Now about attempts to measure wider well-being. Following the fourfold classification in Figure 3 we can see that there are seven possible kinds of composites: one combination of the two top quadrants, one combination of the two bottom quadrants, four three-quadrant combinations and a combination of all four quadrants. It would lead too far to expand on all these combinations and their measurement variants. I will suffice with some examples and explain why we better not use any of these indexes.

### 7.1 UNDP Human Development Index

The most commonly used indicator in this field is the ‘Human Development Index’ (HDI). This index was developed for the United Nations Development Programme which describes the progress in all countries of the world in its annual *Human Development Report* (e.g. UNDP 1999). The HDI is the mayor yardstick used in these reports. The basic variant of this measure involves three items: (1) public wealth, measured by buying power per head, (2) education, as measured by literacy and schooling, and (3) life-expectancy at birth. Later variants of the HDI involve further items: (a) gender-equality measured by the so-called ‘Gender empowerment index’ which involves male-female ratios in literacy, school enrolment and income, and (b) poverty measured by prevalence of premature death, functional illiteracy, and income deficiencies. Note that we deal with scores drawn from national statistical aggregates instead of individual responses to questionnaires.

When placed in our fourfold matrix, this index can be seen to have three meanings—see Figure 4. First, it is about living conditions, in the basic variant of material affluence in society, and in the addition also of social equality. These items belong in the top left quadrant. In the case of wealth it is acknowledged that this environmental merit is subject to diminishing utility, however this is not so with the equalities. Second, the HDI includes abilities. The education item belongs in the top right quadrant. Though a high level of education does not guarantee high social competence, it means that many citizens at least have basic knowledge. Last, the item ‘life-expectancy’ is an outcome

variable and belongs in the bottom right quadrant. The bottom left quadrant remains empty.

The HDI is certainly a useful measure of ‘catch-up’, it indicates how well developing nations meet some attainments that are characteristic for the leading nations of the world. Yet the HDI is of little value as a measure of overall well-being. Figure 4 helps to see why. The HDI adds apples and oranges, *chances* for a good life (wealth and education) are added to *outcomes* (life expectancy), and *outer* qualities (wealth, equality) are added to an *inner* one (education). This simply makes no sense. The HDI is also not suited for monitoring progress in well-being in advanced nations, since its items are subject to the law of diminishing utility. More is not always better. This is acknowledged in the case of wealth, but not in the cases of equality and education. We can have too much of social equality and schooling. Further, life expectancy is of value only if life remains satisfying in old age, but the HDI does take the enjoyment of life into account.

Figure 4 Meanings measured by the ‘Human Development Index’

	<i>Outer quality</i>	<i>Inner quality</i>
<i>Life-chances</i>	Material wealth Gender equality Income equality	Education
<i>Life results</i>		Life-expectancy

## 7.2 Allardt’s welfare index

In his seminal study on comparative welfare Allardt (1976) measured well-being in Scandinavian nations by means of self-reports on nine items: (1) income, (2) quality of housing, (3) political support, (4) social relations, (5) health, (6) education, (7) being irreplaceable, (8) doing interesting things, and (9) life-satisfaction. These indicators cover all the variants of well-being in Figure 3; indicators 1, 2, 3, and 4 concern quality

of living conditions, indicators 5 and 6 concern life-abilities, indicator 7 pertains worth for the world and indicators 8 and 9 are about personal appreciation of life. Allardt classified these indicators using his, now classic distinction, between ‘having’, ‘loving’ and ‘being’. This labeling was appealing at that time, because it expressed the rising conviction that welfare is more than just material wealth, and because it fitted modish notions drawn from humanistic psychology. Though it is well known, the classification has not proven to be very useful.

These indicators can also be ordered in the fourfold matrix proposed here. See Figure 5. Most of the items belong in the left-top quadrant because they concern pre-conditions for a good life rather than good living as such, and because these chances are in the environment rather than in the individual. This is the case with income, housing, political support, and social relations. Two further items also denote chances but these are internal capabilities; the health factor and level of education. These items are placed in the top-right quadrant of personal life-ability. The item ‘irreplaceable’ belongs in the utility bottom left quadrant. It denotes a value of life to others. The last two items belong in the enjoyment bottom right quadrant. ‘Doing interesting things’ denotes appreciation of an aspect of life,<sup>3</sup> while life-satisfaction concerns appreciation of life as a whole.

Figure 5 Meanings measured by Allardt’s *Dimensions of Welfare*: having (h), loving (l), and being (b)

	<i>Outer quality</i>	<i>Inner quality</i>
<i>Life-chances</i>	Income (h) Housing (h) Political support (h) Social relations (l)	Health (h) Education (h)
<i>Life results</i>	Irreplaceable (b)	Doing interesting things (b) Life-satisfaction (b)

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<sup>3</sup> ‘Doing interesting things’ can also be seen as a quality in itself, especially when the person does not like it. In this interpretation this item should be placed in the meaning quadrant, because it represents some kind of perfection.

### 7.3 WHO quality of life scale

Recently, a similar indicator has been developed in the field of health related quality of life research. The World Health Organization Quality of Life (WHOQOL) scale is a questionnaire about self-perceived well-being over a two-week period. The domains addressed are: (1) physical health, (2) psychological health, (3) social relationships, and (4) environmental conditions; the questionnaire also includes an item on perceived overall quality of life. The full questionnaire involves 100 items, the short version 26 (WHOQOL Group 1998).

The main themes are summarized in Figure 6. Though this scale is meant for individual level analysis in the first place, it is also used for comparing well-being across nations and also for that reason a lot of effort is invested in accurate translation.

Figure 6 Meanings measured by the WHO's QOL scale

	<i>Outer quality</i>	<i>Inner quality</i>
<i>Life-chances</i>	Physical environment Home environment Financial resources Social support Safety Information Transportation	Physical health Mental health Work capacity Learning capacity Energy
<i>Life results</i>		Pain Depression Satisfaction with health Satisfaction with self Satisfaction with life

### 7.4 Why all these indexes fall short

All these attempts to summate across quadrants in Figure 3 fall short. The main reason is that it involves, as we have expressed, adding apples with oranges. There is no sense in adding 'chances' and 'outcomes'. This is like measuring public health in a country by adding the quality of sewage to number of days ill. No serious epidemiologist would do so since the question is rather how these phenomena relate. Policymakers must know what quality of sewage is required for reducing the number of days ill and the summation of these matters does not tell them.

Likewise, it makes no sense either to summate ‘outer’ environmental conditions and ‘inner’ capabilities. Such simple summations do not acknowledge the contingencies involved. The livability of outer conditions depends to a great extent on the inner capabilities of the people. If outer conditions are poor, inner capabilities must be strong, but in good external conditions lower capabilities may suffice for a good life. It is the ‘fit’ that matters, not the sum. The fit is also situation specific; modern urban environment calls for different capabilities than traditional agrarian society. Schooling is more fitting in the former condition than in the latter.

All these indexes are also incomplete, because they are limited to a few aspects, typically issues that are on the political agenda and happen to be measurable. Most of the indexes give equal weight to all items, while it should be rather evident that the importance of aspects will vary and none acknowledges that weights vary with satiation and that they are contingent to situations and personal capabilities. I have analyzed these shortcomings in more detail elsewhere (Veenhoven 1996b, 2000).

### **7.5 Best indicator is happy life years**

The most comprehensive measure of well-being is how long and happy people live. Though this latter measure covers only the bottom right quadrant in Figure 3, it is likely to reflect the top quadrants as well. When a person lives long and happily, the preconditions are apparently sufficient; both the environmental conditions and the person’s coping abilities must surpass the minimum level. Moreover, the person’s capabilities (top right quadrant) apparently fit environmental demands (top left quadrant). Note that I do not proclaim long and happy living as the essence of well-being, what I claim is that it is the most comprehensive indicator of this multi faceted concept.

The degree to which people live long and happy in a country can be measured by combining data on length of life from civil registration with data on satisfaction with life as assessed in surveys, with type 9 questions as mentioned above. A simple measure is to multiply life-expectancy with life-satisfaction. For example: in the United States in 1995 life expectancy at birth was 76.4 years and average life-satisfaction on a 1 to 10 scale, 7.4. Hence the average American will enjoy 56.9 happy life years in that era ( $76.4 \times 7.4 / 10$ ). This method is described in more detail elsewhere (Veenhoven 1996b).

This measure of how long and happy people live is called ‘Happy Life Expectancy’ and abbreviated as HLE. Analogous to ‘Disability Adjusted Life Years’ (DALYs), ‘Happiness Adjusted Life Years’ could be abbreviated as HALYs. This latter measure was ranked top in a recent review of indicators of quality-of-life in nations (Hagerty *et al.* 2001)

Data on happy life years are now available for 67 nations in the 1990s and the number of countries covered continues to expand. Trend data are available for ten nations, some of which cover around fifty years. These data are published on the World Database of Happiness and are regularly updated ([www.eur.nl/fsw/research/happiness](http://www.eur.nl/fsw/research/happiness), select ‘Distribution in Nations’ and next click ‘Finding Reports’).

A look at the data shows great variation across nations. HLE is currently highest in Switzerland (63 years) and lowest in Moldavia (20.5 years). About 75 per cent of the

cross-national differences can be explained by 'hard' societal characteristics such as economic development, political freedom and rule of law (Veenhoven 1996b). Comparison though time shows a steady increase in first world nations during the last decade.

There is of course much doubt about the value of subjective life-satisfaction and these misgivings apply also to this measure of happy life years. It would need another paper to discuss these qualms. Suffice to note that I have done that elsewhere (Veenhoven 1996a, 1996b) and showed that these philosophical fantasies have little ground in reality. One thing is that happiness cannot be disposed as false consciousness; happy people appear to be typically realistic and well informed (Veenhoven 2004a). Another point is that happiness is not the same as carefree living. Happiness can go with considerable hardship and even seems to require some challenge (Veenhoven 2004b). Neither does happiness require dictatorial control such as depicted in a *Brave New World*, since happiness appears to require autonomy (Veenhoven 2004a). I will touch on some further qualms about happiness in the next section.

## **8 USE OF MEASURES OF SUBJECTIVE WELL-BEING**

Defenders of the objective approach hold that social indicators serve to guide social policy and that social policy makers need information about (1) the actual state of social problems, and (2) the effects of attempts to solve these problems. This information should be of an indisputable nature, in other words 'objectively true', and this scientific truth should enable rational social engineering. In this view, subjective indicators will distort the technocratic policy process and will give a voice to the irrationalities that have always hampered scientific management.

This position is quite common in the field of social indicators. Several international agencies rule out subjective indicators (OECD 1999) or ignore them (UNPD 1999). The Swedish level of living tradition is quite critical about subjective indicators (Vogel 2002). Below I will take a closer look at the misgivings about subjective indicators and argue why social policy still needs subjective indicators and that objective indicators taken alone are inadequate.

### **8.1 Qualms about subjective measures**

Recalling Figure 1 helps to chart the doubts about subjective indicators. Misgivings about mental matters must be distinguished from misgivings about measurement by self-reports.

### **8.2 Misgivings about mental matters**

It is commonly objected that matters of the mind are unstable, incomparable, and unintelligible.

It is argued that attitudinal phenomena vary over time and that this variation has little link with reality conditions. For instance, attitudes about safety in the streets could depend more on media sensationalism than on actual incidence of robbery. In this view,

subjective indicators cannot provide a steady policy compass and fail to protect policymakers against the whims of the day.

It is also argued that the subjective appraisals cannot be compared between persons. One assertion is that different people use different criteria, so two persons stating they are 'very happy' could say so for different reasons. Another claim is that people have different scales in mind, and that people who report they are 'very happy' may in fact be equally as happy as someone who characterizes his life as 'fairly happy'. In economics this reasoning is known as the theorem of 'incomparable utilities'. If true, this would mean that subjective appraisals cannot show whether one person (or social group) is better off than another, and hence that this kind of indicator is of little help in selecting those most in need of policy support.

Likewise it is argued that subjective appraisals could not be compared across cultures. The example of poverty is often given in this context. Notions of poverty, and hence definitions of oneself as poor, will differ greatly between rich and poor nations, and within nations between upper and lower classes. This would mean for social policy that these kinds of indicators tell policymakers little about relative performance.

A related objection is that the criteria used for these subjective appraisals are largely implicit. Though people know fairly well *how* satisfied, anxious, or trustful they are, they typically know less well *why* they think this is so. The appraisal process is quite complex and partly unconscious; this creates at least an interpretation problem for social policy. The declining trust in government (Vile 1999) is an illustrative case. Though the trend is fairly clear, at least in the US, the causes are not and hence neither the remedy.

This all merges into the position that subjective valuation is in fact irrelevant. Satisfaction judgments in particular can depend too little in real quality of life and too much on fashionable beliefs and arbitrary comparison. In this view policymakers can better ignore appraisals of citizens, just like some doctors disregard their patients' complaints. Instead policymakers should look to objective statistical information, like doctors who believe only laboratory tests.

These objections indeed apply to some subjective indicators. There is good evidence that most of them apply to satisfaction with domains of life and in particular to satisfaction with income. Income satisfaction is indeed highly dependent on social comparison and hence largely unrelated to objective welfare (VanPraag 1993).

Yet these objections do not apply to any subjective indicator and especially not to overall satisfaction with life as a whole. Unlike most domain satisfaction, life-satisfaction is not relative (Veenhoven 1991), because life-satisfaction judgments draw on affective information in the first place (how well one feels) and not on cognitive comparison with standards of a good life. Research findings have also shown that subjective life-satisfaction is strongly related with several indicators of objective welfare, especially at the nation level. Illusive happiness exists only in fiction.

### 8.3 Misgivings about measuring by self-reports

Several objections concern matters of validity. It is doubted that self-reports tap the things we want to access, even if the aim is inner matters. Next there are qualms about reliability. Self-reports are said to be imprecise and too vulnerable to distortions. Though much of this criticism is overdone, there is some truth in it.

#### *Validity doubts*

When objective matters are measured by self-report there is always the problem that survey questions may evoke responses to different matters than the investigator had in mind. Even with a seemingly clear-cut matter such as 'income', there are problems: is it personal income or family income, gross or net, should capital revenues and non-monetary income be included, etc. This problem is particularly noticeable for ill-defined concepts such as 'health' and 'social prestige'.

When subjective substance is measured, a further problem is that people may not have thought much out in their mind. For instance, not everybody has a crystallized 'self-concept' or a clear 'class-conscience'. Even when the person has some idea, this is not always fully consciously understood. For example, racists often fail to acknowledge their own opinions and unhappy people may even seek comfort in defensive reversal and thus believe that they enjoy life.

Again these problems vary with subject matter. Elsewhere I have reviewed the various qualms about the validity of self-reported happiness and inspected the empirical evidence for these claims. I found no evidence for specific distortions and good evidence for general predictive validity. At the individual level happiness appears to be a strong predictor of longevity (stronger than smoking or not) and at the nation level research shows quite strong correlations with societal characteristics such as economic affluence and political democracy, which together explain about 75 per cent of the variance in average happiness (Veenhoven 1997).

#### *Reliability doubts*

Even when self-reports fit the subject matter, there is still the problem of precision. Self-reports are typically made on fixed response options, the number of which is mostly no greater than 10. Not only are these scales rather crude, but also the responses on them are also fickle. The same amount of satisfaction may be rated by one person using the number 6 and by another person using the number 7. Such random error is no great problem for average scores, but it greatly deflates correlations. Next there is the problem that responses may be distorted in a systematic way, such as by a tendency for respondents to conform to social desirability. There is some evidence that desirability bias inflates ratings of income and social prestige. Along side such cultural biases there may also be systematic distortions in interviewing, item sequence and response-formats.

Also in this case the distortions are not the same for any subjective indicator. Research on happiness has demonstrated that self-reports are affected by mood of the moment and characteristics of the interviewer (Schwarz 1999). Yet in nation averages such random errors appear to balance out, given the high percentage of explained variance mentioned above.



## 8.4 Uses of subjective indicators in policy process

In spite of these weaknesses, subjective indicators are indispensable in social policy, both for assessing policy success and for selecting policy goals. Objective indicators alone do not provide sufficient information, especially not on the subject of well-being.

### *Assessing policy success*

Success in some goals can be measured objectively. Improvement of housing conditions can be measured using the gain in square meters per person or improvement in education using the student/teacher ratio. Yet such measures have their limitations, and in some cases additional subjective indicators are required.

This is for instance the case with public 'health'. Considerable problems exist regarding assessment of average health based on medical consumption and registered incidence of disease. Longevity does not fully capture the phenomenon either, and the effect appears only in the long term. Therefore all developed nations run health-surveys to gather data on subjective health complaints and reports of general feelings of health. Likewise, reduction of xenophobia manifests only partly in objective indicators such as racist attacks and interethnic marriage. Attitudinal data are needed to complete the picture.

Success in social policy depends typically on public support. Without public backing most programmes perish in the long run, even if planned goals are reached. Public opinion is not always fully expressed in the political process; hence polls are needed for additional information. Survey data are particularly needed for issues that are not on the political agenda and for groups that are ill represented.

### *Selecting policy goals*

Social policymakers also need information to enable them to decide on future directions. Political entrepreneurs must have an idea of what people want to mobilize the necessary support. They must also get in view what people really need, to select the most meaningful objectives. Much of this information requires subjective indicators to be obtained.

When deciding on new directions, policymakers meet time and again with the problem that the political process does not always reflect public preferences adequately. Representatives sometimes fail to pick up latent concerns and vested interests often keep appealing issues from the political agenda. Good political marketing therefore requires additional public opinion research, in particular polls on worries, aspirations, and satisfactions. These indicators are subjective in both substance and measurement. This kind of research is common practice in all developed democracies.

Policymakers also operate in a more technocrat way and try to grasp what people really need. Here the problem is that expressed wants do not always reflect true needs. A good example is the case of materialist aspirations in affluent society. The Western public wants ever more money and consumption, and this demand is served well by politicians. Yet in spite of the stunning rise in the material level of living, people keep asking for more, even though average happiness has remained about at the same level. According to Frank (1999) this is because our material needs are already satiated. In his view, the constant craving for more luxury draws on an underlying need for supremacy, which

could be equally well met in less wasteful ways. Lane (2000) likewise has observed a decline in happiness in modern market economies, which he attributes to the institutional neglect of social needs.

In this example the gratification of needs in a population is measured by happiness, that is at the very most a subjective indicator. Elsewhere I have argued that overall happiness is indeed the best available indicator of the degree to which true needs are met, especially if combined with the number of years lived (Veenhoven 1995, 2000).

## **8.5 Why objective indicators fall short**

The need for subjective indicators must also be judged against the limitations of objective indicators. Objective indicators provide only a part of the required information and give generally a better view on details than on the whole. Hence categorical rejection of subjective indicators leaves the policymaker with an information deficit, which is inevitably replenished with private observations and hearsay.

### *Limits to observation*

We have already noted above that social policy is not only concerned with objective matters such as ‘income’ and ‘sanitation’, but also with subjective well-being. Hence in the policy mix there is always a combination of objective and subjective substance.

We have also seen that objective measurement falls short on a lot of issues, not only in attitudinal matters but also in the assessment of objective substance. Remember that even the objective measurement of income is problematic. Objective measures also have limited validity and reliability. Joint use of objective and subjective measures is mostly helpful to get a complete picture, while rigid restriction to objective indicators considerably narrows the perspective.

### *Limits to aggregation*

Though objective counts are often quite useful for assessing detail, they are typically less helpful in charting the whole. For example, in assessing the quality of housing, objective indicators can help a great deal in quantifying aspects such as space, light, and sanitation, but these aspects’ scores do not simply add into a meaningful overall estimate of dwelling quality. There have been many attempts to combine piecemeal objective observations into a comprehensive index, but all these attempts labour with the same problems of incomplete information and arbitrary weights.

Aggregation is less problematic with subjective indicators, because we can simply ask people about their overall judgment. Research has shown that people are quite able to strike a balance, both in life-domains such as housing and for their life-as-whole. Subjective appraisals have sometimes been used to assign weights to items in objective sum-scores, mostly avowed value priorities and sometimes-observed correlations with satisfaction. In fact that is a testimonial paupertatis. Rather than use subjective appraisals to construct a comprehensive index, one can better ask right away for an overall judgment.

## **8.6 Use in developing countries**

The use of subjective measures of well-being is limited largely to developed nations, where periodical social surveys are common practice. In developing nations, social indicators research is lodged in the objectivist tradition. In addition to the above-mentioned arguments for using subjective indicators, there are three further reasons why that approach is particularly advisable for developing nations.

The first additional reason is that information about subjective well-being is simply lacking in most developing nations. For all nations we know the average income and the number of physicians per thousand of population, but for most we do not know how happy the population is. This marks not only an information deficit for these nations, but also limits the comparative study of subjective well-being.

The second reason is that political interest representation falls short in many developing countries; survey data on aspirations, needs and satisfactions of citizens are all the more required.

The third reason is in the quality of registration in developing countries. Since that quality is often poor, so too are the derived objective indicators. Hence survey data are all the more needed for obtaining an adequate picture of reality.

Lastly, surveys are relatively cheap in developing nations and the quality of survey data can be better controlled.

Together this means that there would be great value in a periodical social survey in developing countries. Such a survey could link up with the common 'Euro Module' that is now part of many welfare surveys in Europe (Zapf 2002).

## **9 CONCLUSION**

Social indicators cannot be classified as either 'objective' or 'subjective', since there are many gradations. Neither can one measure 'well-being' in the main, because that term denotes different matters that cannot be meaningfully summated. The most subjective measures of subjective well-being are self-reports of satisfaction, and the most comprehensive measure of that kind is satisfaction with life-as-a-whole, shortly called 'life-satisfaction' or 'happiness'. Subjective enjoyment of life can be meaningfully combined with objective length of life and expressed in the number of 'happy life years'. Since this outcome depends on the fit between environmental conditions and personal capabilities, it is also the best indicator of overall well-being.

Information about perceptions and satisfactions of citizens is quite useful in the policy process, and the degree to which citizens live long and happy is an important criterion for final policy effectiveness. Data on that matter should also be made available for developing nations by introducing periodical welfare surveys.

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