

QUALITY OF LIFE AND HAPPINESS

Concepts and measures

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Abstract

The terms 'quality-of-life and 'happiness' denote different meanings; sometimes they are used as an umbrella term for all of value, and the other times to denote special merits. This chapter is about the specific meanings of the terms. I distinguish four qualities of life, one of which is subjective appreciation with life. Next, I distinguish four kinds of appreciation, one of which is 'happiness' in the limited sense of the word. Based on this conceptual differentiation I inspect what is measured by some current measures of quality of life. I discuss several weaknesses of these measures and show that quality of life cannot be measured comprehensively. The most comprehensive measure of quality of life is how long and happy people live and that is well measurable.

Many words are used to indicate how well we are doing. Some of these signify overall thriving; currently the terms 'quality of life' and 'wellbeing' are used for this purpose, and sometimes the word 'health'. In the past the terms 'happiness' and 'welfare' were more commonly used. There are several problems with these terms.

One problem is that these terms do not have an unequivocal meaning. Sometimes they are used as an umbrella for all that is good, but on other occasions, they denote specific merit. For instance: the term 'wellbeing' is used to denote the quality of life-as-a-whole and to evaluate life-aspects, such as dwelling conditions or employment chances. Likewise, the phrase 'quality-of-life' refers in some contexts to the quality of society and in other instances to the happiness of its citizens. There is little view on a consensus on the meaning of these words; the trend is rather to divergence. Over time, connotations tend to become more specific and manifold. Discursive communities tend to develop their own quality-of-life notions.

The second problem is in the connotation of inclusiveness. The use of the words as an umbrella term suggests that there is something as 'overall' quality of life, and that specific merits can be meaningfully added in some wider worth; however, that holistic assumption is

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dubious. Philosophers have never agreed on one final definition of quality-of-life, and in the practice of empirical quality-of-life measurement we see comparisons of apples and oranges.

The above problem of many meanings is partly caused by the suggestion of inclusiveness. One of the reasons why the meanings become more specific is that the rhetoric of encompassingness crumbles when put to practice. The broad overall meaning appears typically unfeasible in measurement and decision-making. Hence, connotations tend to become more specific and diverse. As result, rhetoric denotation of the overall good requires new terms periodically. New expressions pop up as against more narrow meanings. For instance, in the field of healthcare the term 'quality of life' emerged to convey the idea that there is more than mere quantity of survival time. Likewise, in psychology the term 'flourishing' is now used to cover the myriad of notions about positive psychological functioning, while in economics the word 'wellbeing' came into use in contrast to sheer economic 'welfare'. Yet, in the end, these new terms fall victim to their success. Once they are adopted as a goal for policy, analysts and trend watchers start extracting palpable meanings and make the concepts ever more 'multi-dimensional'.

Obviously, this communicative practice causes much confusion and impedes the development of knowledge in this field. In reaction, there have been many proposals for standard definitions. Unfortunately, this has not really helped. Firstly, such scientific definitions hardly affect the common use of language. Secondly, they add to the confusion, because scholars are not able to agree on one meaning. Since we cannot really force the use of words, we can better try to clarify their use. We can elucidate the matter by distinguishing different meanings.

In this chapter, I propose a conceptual distinction between various qualities of life (section 1). On that basis, I chart the substantive meanings in common measures of the good life, and consider whether we can measure quality of life comprehensively (section 2). I build on earlier publications on these issues in Veenhoven 1997, 2000, 2009, 2012, 2013 and 2014. More detail and full references are found in these publications.

1 CONCEPTS OF THE GOOD LIFE

Much of the literature on the good life is about *chances* for a good life, such as having loving parents, which is not the same as *outcomes* of life, such as suicide. Chances and outcomes are related, but are certainly not the same. Chances can fail to be realized, due to stupidity or bad luck. Conversely, people sometimes make much of their life in spite of poor chances.

A second difference is between *external* and *internal* qualities. In the first case, the quality is in the environment, in the latter it is in the individual. Lane (1994) made this distinction clear by telling 'quality of society' from 'quality of persons'.

1.1 Four qualities of life

The combination of these two dichotomies yields a fourfold matrix. This classification is presented in scheme 1. The distinction between chances and results is presented vertically, the difference between outer and inner qualities horizontally. Below I describe the meaning

involved and in the first three cases note the difference with the meaning addressed in the right-bottom quadrant, that is 'subjective appreciation of life'

Scheme 1 about here

Livability of the environment

The left top quadrant denotes the meaning of good living conditions. Often the terms 'quality-of-life' and 'wellbeing' are used in this particular meaning, especially in the writings of ecologists and sociologists. Economists sometimes use the term 'welfare' for this meaning. Another term is 'level of living'

'Livability' is a better word, because it refers explicitly to a characteristic of the environment and does not have the limited connotation of material conditions. One could also speak of the 'habitability' of an environment, though that term is also used for the quality of housing in particular.

Though livability of the environment typically adds to the appreciation of life (bottom-right quadrant), it is not the same; among other things because subjective appreciation also depends on the degree to which people are able to exploit environmental opportunities.

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. This aspect of the good life is also known by different names. The words 'quality of life' and 'wellbeing' are also used to denote this specific meaning, especially by doctors and psychologists. There are more names however. In biology, the phenomenon is referred to as 'adaptive potential'. On other occasions it is denoted by the medical term 'health', in the medium variant of the word¹, or by psychological terms such as 'efficacy' or 'potency'. I prefer the simple term 'life-ability', which contrasts elegantly with 'livability'.

Life-ability will typically add to subjective appreciation of life (bottom-right quadrant), but should not be equated with that. Environmental challenges can be too hard and not all capabilities are equally functional in given conditions.

Usefulness of life

The left bottom quadrant represents the notion that a good life must be good for something more than itself. This presumes some higher values. There is no current generic for these external turnouts of life. It is sometimes referred to as 'meaning of life', which then denotes 'true' significance, instead of mere subjective sense of meaning. I prefer the more simple 'usefulness of life'.

Be aware that this external benefit does not require inner awareness. A person's life may be useful from some viewpoints, without them knowing, especially not if the effects manifest after their death. A useful life is not necessarily a happy life, for instance not when one sacrifices one's personal happiness for a greater good.

Appreciation of life

The bottom right quadrant represents the inner outcomes of life. That is the quality 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 'subjective wellbeing', 'life-satisfaction' and 'happiness' in a limited sense of the word. Life has more of this quality, the more and the longer it is enjoyed. Present day 'happiness research' focuses on this quality of life.

1.2 Four kinds of subjective appreciation of life

When we focus on subjective appreciation of life, there are still different meanings used. These meanings can also be charted in a fourfold matrix. In this case, that classification is based on the following dichotomies: *life-aspects* versus *life-as-a-whole* and *passing* versus *enduring* appreciation of life.

When combined, these distinctions produce the fourfold matrix presented in scheme 2. The distinction between part and whole is presented vertically, and the distinction between passing and enduring enjoyment horizontally. Below I again discuss the difference of the first three variants with the last, that is, with happiness in the sense of life-satisfaction.

Pleasures

The top-left quadrant represents passing enjoyment of life-aspects. Examples would be delight in a cup of tea at breakfast, the satisfaction of a chore done or the enjoyment of a piece of art. I refer to this category as 'pleasures'. Kahneman et al. (2007) call it 'instant-utilities'. This quadrant represents hedonic happiness, especially when the focus is on sensory experience.

The concept of happiness in the right-bottom quadrant is broader and concerns satisfaction with life-as-a-whole. Though fleeting enjoyment obviously contributes to a positive appreciation of life it is not the whole of it.

Domain satisfaction

The top right quadrant denotes enduring appreciation of life-aspects, such as with one's marriage or job. This is currently referred to as 'domain-satisfactions'. Though domain-satisfactions depend typically on a continuous flow of pleasures, they have some continuity of their own. For instance, one can remain satisfied with one's marriage even if one has not enjoyed the company of the spouse for quite some time.

Domain-satisfactions are often denoted with the term happiness: a happy marriage, happy with one's job, etc. Yet here the term happiness is used in a broader sense, not for the satisfaction with aspects of life, but for the satisfaction with life-as-a-whole. One would not call a person happy who is satisfied with marriage and job, but still dissatisfied overall because his health is failing. It is even possible that someone is satisfied with all the domains one can think of, but feels depressed.

Peak-experience

The bottom right quadrant denotes the combination of passing experience and appraisal of life-as-a-whole. That combination occurs typically in top-experiences, which involve short-lived but quite intense feelings and the ‘oceanic’ perception of wholeness. This is the kind of happiness poet's write about.

Again, this is different from life-satisfaction. A moment of bliss is not enduring appreciation of life. In fact, such top-experiences even seem detrimental to lasting satisfaction, possibly because of their disorientating effects.

Happiness

Lastly, the bottom-right quadrant represents the combination of enduring satisfaction with life-as-a-whole. This is what I mean with the word ‘happiness’. A synonym is ‘life-satisfaction’. This is the meaning the utilitarian philosophers had in mind when talking about happiness. When speaking about the ‘sum of pleasures and pains’ Jeremy Bentham (1789) denoted a balance over time and thus a durable matter.

This meaning is also the most common in current happiness research and in particular in ‘happiness economics’. It is the focus of the World Database of Happiness (Veenhoven 2014). In that latter context, happiness is defined as “the degree to which an individual evaluates the overall quality of his or her life as a whole positively”.

Scheme 2 about here

1.3 Components of happiness

When appraising how much we appreciate the life we live, we draw on two sources of information: 1) how well we feel generally, and 2) how well our life-as-it-is compares to standards of how-life-should-be. These sub-appraisals are seen as ‘components’ of happiness, respectively the *affective component* called ‘hedonic level of affect’ and the *cognitive component* called ‘contentment’. This distinction is discussed in more detail in Veenhoven (2009), together with a theory about difference in the determinants of these components. This distinction and theory are summarized in scheme 3.

Hedonic level of affect

Like other animals, humans can feel good or bad, but unlike other animals, we can reflect on that experience, assess how well we feel most of the time and communicate this to others. This is the feeling-based part of happiness.

Contentment

Unlike other animals, humans can also appraise their life cognitively and compare their life-as-it-is with how they want-it-to-be. Wants are typically guided by common standards of the good life, and in that sense, contentment is likely to be more culturally variable than affect level. This cognitive appraisal of life assumes intellectual capacity and for this reason this concept does not apply to people who lack this capacity, such as young children who cannot yet oversee their life-as-a-whole and thus can have no clear standards in mind.

Scheme 3 about here

Dominance of affect

Jeremy Bentham (1789) thought of happiness as the result of a ‘mental calculus’ and currently most scholars in the field also see it as a cognitive operation, such as a weighed average of earlier life-aspect evaluations or a series of comparisons of life-as-it-is with various standards of how-life-should-be. Many philosophers see it as an estimate of success in realizing one’s life-plan.

Yet there are good reasons to assume that overall life-satisfaction is mostly inferred from affective experience. One reason is that life-as-a-whole is not a suitable object for calculative evaluation. Life has many aspects and there is usually not one clear-cut ideal model to compare with. Another reason seems to be that affective signals tend to dominate; seemingly, cognitive appraisals are often instigated by affective cues. This fits the theory that the affective system is the older in evolutionary terms, and that cognition works as an addition to that navigation system rather than as a replacement.

This issue has important consequences for the significance of subjective appreciation as a criterion for quality-of-life. If appreciation is a matter of mere comparison with arbitrary standards, there is little of value in a positive evaluation; dissatisfaction is then an indication of high demands. If, however, life satisfaction signals the degree to which innate needs are met, it denotes how well we thrive.

Whatever the method of assessment, the fact that we are able to come to an overall evaluation of life is quite important. In the next section, we will see that this is the only basis for encompassing judgments of the quality of life.

2 MEANINGS IN OTHER NOTIONS OF THE GOOD LIFE

With the help of the taxonomy given above, we can now clarify the substantive meaning of several further terms used to denote quality of life. This enumeration is not exhaustive; the goal is to illustrate this approach.

2.1 Notions that denote multiple qualities

The following diagrams refer to Scheme 1 and indicate which of the four qualities of life are at stake. The degree to which a particular quality of life is addressed is indicated with + signs

Adjustment

	++
	++

This term came into use in the 1960's, in particular in gerontological studies of 'adjustment to old age', and was used interchangeably with 'adaptation. These words were soon ousted by phrases like 'morale', 'psychological wellbeing' and 'life-

satisfaction'. The term referred to personal qualities; hence, it belongs in the right side of our matrix. Adjustment denotes how well a person deals with life, and refers to both equipment and success. Hence, the concept does not fit one quadrant, but covers both life-abilities and life-appraisals. In the diagram this is indicated by ++ in the two right-hand quadrants.

Capability

+	++

In the work of Sen (1985) work, the word “capability” denotes the abilities required to improve one’s situation, typically in the context of developing countries. Nussbaum rather refers to capability as “being able to live a truly human life” in the context of affluent society. “Being able” requires both freedom from external restraints and personal skills. Freedom from external restrains belongs in the top left quadrant of the matrix, while the personal competency to use environmental chances belongs in the top right quadrant.

In Sen (1985), the emphasis is in the top left quadrant, in particular where he argues against discrimination. Yet he also highlights education, which is an individual quality.

Nussbaum (in Nussbaum & Sen 1993) emphasizes the top right quadrant. Most of the capabilities on her list are inner aptitudes, e.g., practical reason and imagination. Yet she also mentions protection against violent assault, which is an environmental factor.

Deprivation

++	+
	+

The word 'deprivation' refers to shortfall of something. When used in an absolute sense it means failure to meet basic human needs, when used in a relative sense it means being less well off than others. The word is typically used in the latter meaning, while suggesting the former. Current specifications of this notion are 'poverty' and 'social exclusion'.

In most contexts, the lack is in external conditions of life, and concerns access to income, power and prestige. In social policy, this kind of deprivation is typically met with redistribution of these scarce resources. This main meaning belongs in the livability quadrant.

Sometimes the word also refers to deficiency in ones capacity to stand up for oneself. The political cure for this problem is 'empowerment', common ingredients of which are general education, political training and boosting of self-esteem. The latter adjunct definition belongs in the life-ability quadrant.

Usually these conditions are associated with the expected outcome for individuals that is with 'happiness'. Hence, measures of deprivation often include items on dissatisfaction, depression and suicidal ideation.

Eudaimonic happiness

	++
+	+

The term *Eudaimonic* happiness is commonly used in contrast with ‘hedonic’ happiness, and denotes that simply feeling good is not everything. The essence of a good life is seen in living “good” rather than in “enjoying life” and living good is seen as “psychological development” and is associated with “full functioning” , “virtue” and “living in accord with one’s true nature”.

In this view of the good life, the emphasis is on life-ability in the top right quadrant of our conceptual matrix. Still, subjective enjoyment of life is commonly seen as an inseparable by product of psychological thriving and for that reason a + is placed in the bottom right quadrant. Likewise, individual thriving is often associated with living a useful life and for that reason the bottom left quadrant is marked with a + as well.

Public happiness

++	+
	+

Porta and Scazzierri (2007) use the term ‘public happiness’ in a way similar to Sen’s capability approach, but lay more emphasis on the social preconditions for happiness. In their words: “Public happiness may be associated with a constellation of *enabling conditions*, by which individuals (and social groups) find that their purposes are mutually recognized and their capabilities turned into actual ‘functionings’ (Sen 1985). The structure of public happiness calls attention to the role of social knowledge and institutions. The former translates private feelings into ‘socially recognized’ codes of behavior. The latter turns ‘socially admissible’ purposes into a set of feasible choices and actions”.

Since the focus is on ‘enabling conditions’ this notion fits the upper quadrants of Scheme 1 in the first place, but since they deal with conditions for subjective happiness in particular, there is also a fit with the bottom right quadrant and as such this concept differs from the capability approach.

This notion departs from the idea that “once fundamental needs are satisfied, human happiness is a *cognitive state* associated with beliefs and opportunities” and on that basis argues that we will be happier in cultures where belief systems fit opportunities. This emphasis on cognitive comparison does not match the claim made in section 1.3 that affect dominates in the evaluation of life.

Subjective wellbeing (SWB)

	+
	++

The term *subjective well-being* (SWB) is often used in one breath with “life-satisfaction” and “happiness” and denotes “appreciation of life” in the bottom right quadrant. “Appreciation” is seen to involve both affective enjoyment and cognitive contentment. According to Diener (1984) a person who scores high on subjective well-being should experience many positive and few negative emotions, while also reporting high life satisfaction.

Yet the term is also used for subjective states deemed functional in coping with life, such as the perceived locus of control and a sense of purpose. These meanings fit to

top-right quadrant of life-abilities.

2.2 Notions that denote conflicting qualities

In a similar vein the taxonomy of scheme 1 can be used to place notions of good and bad qualities of life going together.

Happy slave

-	
	+

A common argument against moral utilitarianism is that people can feel happy subjectively in objectively repugnant social conditions. Sen (1985) illustrates that point with the 'happy slave'. Marxist will see it as a case of 'false consciousness' and Zapf (1984) called it 'resignation'. The available data do not suggest that this combination is common.

Happy Hans

	-
	+

Another combination that strikes as contradictory is when people feel happy subjectively, while their life-abilities fall short to objective standards. This is the case in the fairy tale of 'Happy Hans', who is robbed from his inheritance by smarter people but still praises his lot. In reality, the combination of low life-ability with high life-satisfaction is often observed among people with Down syndrome; at least in societies where care for the mentally retarded is typically quite good.

Happy hedonist

-	+

Lastly, there is the combination of a satisfying life but useless life, or even a satisfying life that involves negative external effects. The case of Casanova can be seen as an example, this pleasure seeker seems to have enjoyed life, but did so at the cost of many broken hearts and setting a bad moral example. Moralists often argue that hedonism will not satisfy in the long run, but the available data do not suggest that this is typically the case.

3 MEASURES OF THE GOOD LIFE

The last decades have witnessed a surge in empirical research on the good life, in particular in the fields of social indicators research and medical quality-of-life assessment. This has produced a wealth of measures. Most of these measures are multidimensional and assess different qualities of life. Typically, the scores on the different qualities are presented separately in a "quality-of-life *profile*". Often they are also summed in a "quality-of-life *score*". Next, there are "uni-dimensional" measures, which focus on one specific quality. Such single qualities are often measured by single

questions; for instance, the condition of cancer patients is measured by simply asking them where they stand between the best and worst they have ever experienced.

A lively discussion about the pros and cons of these measures is still going on. Psycho-metricians dominate this discussion and focus very much on factor loadings, reliability issues and inter-item correlations. There is less attention to matters of substance, so there is no clear answer to the question of what these measures actually measure. One of the reasons for this deficiency is a lack of a clear taxonomy of the qualities of life. Now that we have a classification of meanings, we can give it another try.

In this section, I first explore which of these qualities figure in multidimensional measures of quality of life. Next, I consider whether there are measures that fit one of the four qualities of life separately and whether summation of such scores makes sense.

3.1 Meanings in comprehensive measures of quality of life

As there are so many measures of the good life, they cannot all be reviewed here: four examples must suffice to illustrate the approach. The examples are taken from different research fields: medical quality-of-life research, psychological well-being research, sociologically oriented research on welfare and socio-economic studies of national development.

Example of a medical quality-of-life index

One of the most common measures in medical quality-of-life research is the SF-36 Health Survey (Ware, 1996). It is a questionnaire on the following topics:

- physical limitations in daily chores (10 items)
- physical limitations to work performance (4 items)
- bodily pain (2 items)
- perceived general health (6 items)
- vitality (4 items)
- physical and/or emotional limitations to social functioning (2 items)
- emotional limitations to work performance (3 items)
- self-characterizations as nervous (1 item)
- recent enjoyment of life (4 items).

Ratings on the first four topics are grouped in a "physical component sub-score", ratings on the last four topics in a "mental component sub-score". Together with general health, these components are added into a quality-of-life total score. Most elements of this scale refer to performance potential and belong in the life-ability quadrant at the top right in scheme 4. This will be no surprise, since the scale is aimed explicitly at health. Still, some of the items concern outcomes rather than performance potential, in particular the items on recent enjoyment of life (last on the list). Pain and bad feelings are typically the result of health defects. Happiness is clearly also an outcome. As a proper health measure, the SF-36 does not involve outer qualities, so the left quadrants in scheme 4 remain empty.

Several other medical measures of quality of life do involve items about environmental conditions that belong in the livability quadrant, such as about availability of services for handicapped persons or support by family and friends. Some medical indices also include outer effects that belong to the usefulness quadrant: typical items are continuation of work tasks and support provided to intimates and fellow patients.

Scheme 4 about here

Example of a psychological well-being scale

Cummins (1993) sees quality of life (QOL) as an aggregate of objective and subjective components. Each of these components is divided into the following seven domains:

- material well-being: measured by income, quality of house and possessions
- health problems: measured by number of disabilities and medical consumption
- productivity: measured by activities in work, education and leisure
- intimacy: contacts with close friends, availability of support
- safety: perceived safety of home, quality of sleep, worrying
- place in community: social activities, responsibilities, being asked for advice
- emotional well-being: opportunity to do/have things wanted, enjoyment of life.

Overall QOL is measured using a points system, objective QOL using simple scores and subjective QOL using satisfaction with domains weighted by their perceived importance. Finally, the scores on objective and subjective QOL are added.

The objective scores of this list represent typically life chances, though the safety items are subjective appraisals. This item is therefore placed between brackets in the matrix in scheme 5, Most of the items concern environmental chances and are placed in the livability quadrant, top left. Two items concern inner capabilities and are placed in the life-ability quadrant, top right.

The subjective scores refer to how the individual appreciates these aspects of life, and belong in the enjoyment quadrant on the bottom right. The Cummins scale has no items on overall satisfaction with life. The logic of his system produces the somewhat peculiar item "How satisfied are you with your own happiness?"

The bottom left quadrant remains empty in this interpretation; however, some of the life-chance items can also be seen as indicative of outer results. The measures of *place in community* imply not only better access to scarce resources, but can also denote contribution to society. Likewise, the productivity item may not only tap ability to work, but also the results of it. For this reason, these items are placed in brackets in the meaning quadrant.

Scheme 5 about here

Example of a sociological measure of individual quality of life

One of the first attempts to chart quality of life in a general population was made in the Scandinavian Study of Comparative Welfare under the direction of Erik Allardt (1976). Welfare was measured using the criteria of income; housing; political support; social relations; irreplaceability; doing interesting things; health; education; and life satisfaction. 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 scheme 6. Most of the items belong in the top left quadrant because they concern chances 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 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 usefulness bottom left quadrant: it denotes a value of a life to others. The last two items belong in the enjoyment bottom right quadrant. "Doing interesting things" denotes appreciation of an aspect of life, while life satisfaction concerns appreciation of life as a whole.

Scheme 6 about here

Example of a measure of quality of life in nations

Finally an illustration of measures used in cross-national comparisons of quality of life. The most commonly used indicator in this field is the Human Development Index (HDI). This index was developed for the UNDP, which describes the progress in all countries of the world in its annual *Human Development Report* (UNDP) the first of which appeared in 1990. The HDI is the major yardstick used in these reports.

The basic variant of this measure involves three items: public wealth, measured by buying power per head; education, as measured by literacy and schooling; and life expectancy at birth. Note that we deal now with scores drawn from national statistical aggregates instead of individual responses to questionnaires. Later variants of the HDI involve further items: gender equality measured by the so-called "gender empowerment index", which involves male-female ratios in literacy, school enrolment and income, and poverty measured by prevalence of premature death, functional illiteracy and poverty. In a theoretical account of this measure the UNDP claims to focus on how development enlarges people's choice, and thereby their chance for leading long, healthy and creative lives (UNDP, 1990: 9).

When placed in our fourfold matrix, this index can be seen to have three meanings. First, it is about living conditions, in the basic variant of material affluence in society, and in the variant 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; this, however, 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 mental health and pronounced ability in the art of living, it means that many citizens have at least basic knowledge. Lastly, the item *life expectancy* is an outcome variable and belongs in the bottom right quadrant. The bottom left quadrant remains empty. The UNDP's measure of development does not involve specific notions about the meaning of life.

Scheme 7 about here

3.2 Measures for specific qualities of life

Next to these encompassing measures of quality of life, there are measures that denote specific qualities. These indicators can also be mapped on the matrix. Again, some illustrative examples will suffice.

Measures of livability

Environmental life chances are measured in two ways: by the possibilities embodied in the environment as a whole, and by relative access to these opportunities.

The former measures concern the livability of societies, such as nations or cities. These indicators are typically used in developmental policy. The latter are about relative advantage or deprivation of persons in these contexts, and are rooted mostly in the politics of redistribution.

Contents:

Measures of livability of society concern firstly nations and involve aspects such as wealth of the nation, peace with neighbors, internal stability and democracy. The physical habitability of the land is also acknowledged. There are similar measures for quality of life in cities and regions. There are also livability scores for more or less "total" institutions such as army-bases, prisons, mental hospitals and geriatric residences.

Measures of relative deprivation focus on differences among citizens for such things as income, work and social contacts. Differences in command of these resources are typically interpreted as differential access to scarce resources.

All these measures work with points systems and sum scores based on different criteria in some way. A part of the measures is based on objective assessments and is typically derived from social statistics. Others also include self-reports about living conditions and depend for this purpose on survey data.

Limitations

These inventories cannot really measure livability comprehensively. First, the two are seldom combined; second, both labor under serious limitations.

The first limitation is that the topics in these inventories do not exhaustively cover environmental conditions. The indices consist of some dozens of topics that are deemed relevant and happen to be measurable. The inventories obviously lack sections

on conditions we do not know of as yet; note, for example, that the list of environmental pathogens is growing each year. Further, not all the conditions we are aware of are measurable. For instance, there are no measures for highly valued qualities like *social solidarity* and *cultural variety*.

Problem number two is the significance of topics that are included. Since there is no complete understanding of what we really need, we can only guess at the importance of a topic. Though it is evident that we need food and shelter, it is questionable whether we need holidays and a welfare state. The choice of topics to include in a livability index is not based on evidence that we cannot thrive without something, but on the researcher's preconceptions of the good life, which are often a reflection of the political agenda. The case of the welfare state can be used to illustrate that point. Several livability inventories include expenditures on social security. Yet people do not thrive any better in nations with high social security expenditures than in otherwise comparable nations where state social security is modest. Freedom appears to add more to happiness, in particular economic freedom, but that latter indicator is typically absent in QOL-indexes.

The third problem is the degree of opportunities required; how many should an environment provide to be livable? With respect to food and temperature, we know fairly well what amounts we need minimally and what we can use maximally. Yet on matters of safety, schooling, freedom and wealth, we know little about minimum and possible maximum needs. Lacking this knowledge, most indices assume that more is better.

Problem number four is that the significance of opportunities is not the same for everybody, but depends on capabilities. For instance, freedom in nations appears to add to happiness only when people are well educated. This means that topics should be given weights according to conditions. In practice that is hardly feasible.

Lastly, there is the problem of aggregation. The aim is inclusion of all relevant opportunities, but the practice is a summing of a few topics. The assortment of topics differs considerably across inventories, and it is not clear whether one collection is better than another is. In fact, each ideology of the good life can compose its own livability index.

Together this means that inclusive assessment of livability is not feasible. The best we can do is to make promising condition profiles. Livability sum scores make little sense.

Measures of life-ability

Capabilities for living are also measured in different ways. First, there is a rich tradition of health measurement, which is rooted in the healing professions. Second, there is a trade in skill measurement, which serves selection within education and at work.

Contents

Measures of health are, for the greater part, measures of negative health. There are various inventories of afflictions and functional limitations, several of which combine

physical and mental impairments. Assessments are based on functional tests, expert ratings and self-reports. The above-mentioned SF-36 is an example of the latter kind of measure. In the self-report tradition, general health is also measured by single questions. Next, there are also inventories for positive health, mainly self-report questionnaires in the tradition of personality assessment.

Measures of skillfulness concern mostly mental abilities, many of which are parts of so-called intelligence tests. Performance tests can be considered to be objective assessment. A new offspring of this tradition is testing for *emotional intelligence* and for *wisdom*, which is mostly a matter of subjective self-reporting.

Some abilities manifest in observable real-life success. School success is measured in years of schooling and by the level of schooling achieved. People who do badly at school or receive no formal education in all probability lack several necessary abilities. In developing nations, literacy is a common topic. Life-ability is also inferred from apparent success at work and in love.

Limitations

As in the case of livability, these measures do not provide a complete estimate of life-ability. Again, the measures are seldom combined, and we meet the same fundamental limitations.

First, we cannot grasp all human capabilities; there are limitations to what we can conceive and what we can measure. Possibly the current measurement repertoire misses some essential talents, in particular aptitudes required for new challenges.

Second, we are again uncertain about the significance of topics in the inventories. Possibly some of the things we learn in school are irrelevant. Valued positive mental health traits may actually be detrimental for coping with the problems of life. Unlike the case of livability, there is some significance testing in this field. Intelligence tests in particular are gauged by their predictive value for success at school and at work. Yet this validation criterion is not the most appropriate in this context, because success at school and work does not guarantee a happy life. Many of the other ability tests available lack any validation.

Third, it is typically unclear how much of the ability is optimal; more is not always better. As there are limitations to skill acquisition, the right mix counts.

Fourth, the functionality of abilities is contingent to the situation and fit with other traits. For instance, assertiveness is more functional in an individualistic society than in a collectivist culture, and fits better with trait autonomy than with trait dependence.

Lastly, we cannot adequately estimate general ability by adding up test scores. Though psycho-metrists dream about a general ability factor, this seems to be a statistical epiphenomenon rather than a reality.

Measures for usefulness of life

There are many criteria for evaluating the usefulness of a life, of which only a few can be quantified.

When evaluating the usefulness of a person's life by the contribution that life makes to society, one aspect could be good citizenship. That quality can be measured by criteria such as law abidance and voluntary work. When the usefulness of a life is measured by its effect on the environment, consumption is a relevant aspect. There are several measures of *green living*. It is less easy to quantify moral value. Though it is not difficult to see that some people's lives stand out, there are no tools to rate the common person.

On some criteria, we have better information at the aggregate level. The measure of 'ecological footprint' indicates the degree to which citizens in a country use irreplaceable resources. Patent counts per country give an idea of the contribution to human progress, and state participation in UN organizations could be seen as an equivalent of good citizenship.

Unlike the foregoing qualities of life, there have been no attempts to measure usefulness comprehensively. The obvious reason is that the criteria are too vague and varied. Usefulness is easier to conceive than measure.

Comprehensiveness is less of a problem when usefulness is measured subjectively. We can then assess the degree to which someone thinks of his or her life as useful. Several questionnaires measure subjective sense of meaning. These questionnaires do not measure actual usefulness of life, but rather the person's satisfaction with his perception of the matter. Though these feelings may have some reality basis, the measures say more about the subjective appreciation of life; because the usefulness of one's life is so difficult to grasp, judgment is easily overshadowed by how much one likes or dislikes life.

Measures of appreciation of life

It is easier to measure the subjective appreciation of life. Since this is something people have in mind, we can simply ask them. Interrogation is mostly done by direct questioning via an interview or a written questionnaire.

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Most assessments are self-report in response to standard questions with fixed response options. As well as numerous single items, there are various questionnaires. Incidentally, subjective well-being is assessed by less obtrusive methods, such as analysis of diaries and projective tests. All valid measures of that concept are gathered in the collection 'Measures of happiness', which is part of the World Database of happiness (Veenhoven 2014). The collection provides full text of measures and links to findings obtained with these. A distinction is made between measures of overall happiness and measures for components of happiness as mentioned in section 1.3 of this chapter.

Overall happiness: direct questioning can only assess this. Overall happiness cannot be measured indirectly by questions that tap essentially different matters that are assumed to be

related to happiness, such as mental health, which belongs in the top-right quadrant of scheme 1, or satisfaction with one's job, which belongs to the top-right quadrant of scheme 2.

Questions on this matter can use various key terms. One is 'happiness', provided that the context of the question makes clear that happiness-in-life is concerned, rather than happiness-of-the-moment. Another acceptable term is 'satisfaction-with-life'. Questions can be framed in different ways: as closed questions, as open-ended questions and as focused interviews. In the latter two cases, clear instructions for content analysis of responses are required.

Overall happiness cannot be assessed by peer-ratings, because peers do not know precisely what the subject has on his mind and rather tend to imagine how they themselves would feel if they were in the subjects shoes.

Affective component: Hedonic level of affect can be assessed in three ways: by questions on average affect, by experience sampling and by ratings based on non-verbal behavior.

In the case of questioning about average affect, a common technique is to ask people how well they have felt most of the time, typically over the last month. Another common approach is to ask how often they have experienced particular positive feeling, such as 'cheerfulness' and negative feelings, such as 'anxiety' and next assess the degree to which positive feelings outbalance negative ones.

Another technique is to ask people repeatedly how they feel now and next compute an average, typically over a period of some weeks. This is called 'Experience Sampling Method' (ESM). A variant is the use of mood diaries, such as in the Day Reconstruction Method (DRM).

How well people feel affectively will often manifest in non-verbal behavior. Hence, hedonic level can also be measured using observation techniques, such as time sampling of smiles. This technique is used for measuring hedonic level in toddlers.

Cognitive component: Contentment can be measured only by using direct questions. Like overall happiness, it cannot be validly assessed by indirect questioning or by peer-ratings. Direct questions must again be specific. In this case, this means that the question must clearly focus on realization of wants in a life-perspective. Such questions are probably best understood when preceded by an enumeration of one's major aspirations. Questions can again be framed in various formats.

Happy life years: Questions on appreciation of life typically concern the current time. Most questions refer to happiness *these days* or *over the last year*. Obviously, the good life requires more than this, hence happiness must also be assessed over longer periods. In several contexts, we must know about happiness over a lifetime, or better, how long people live happily.

At the individual level, it is mostly difficult to assess how long and happily people live, because we know only when they are dead; however, at the population level the average number of years lived happily can be estimated by combining average

happiness with life expectancy. Below in section 3.3 I argue that this index of 'Happy Life Years' (HLY) provides the most comprehensive measure of quality of life in nations.

Limitations?

There are doubts about the value of these self-reports, in particular about interpretation of questions, honesty of answers and interpersonal comparability. Empirical studies, however, show good validity and reasonable reliability. There are also qualms about comparability of average responses across cultures, and hence about the above-mentioned estimate of happy years of life. It is claimed that questions are differently understood and that response bias differs systematically in countries. These objections have also been checked empirically and appeared not to carry any weight.

3.3 Can quality of life be measured comprehensively?

As noted in the introduction, the term *quality of life* denotes *overall* worth of life. Hence, the introduction of the term was followed by attempts to measure the goodness of life using multi-dimensional inventories. The meanings addressed by these inventories were considered in section 3.2 of this chapter. All assess overall quality of life by summing different merits, and in these summations the qualities discerned are merged. This adding of apples and pears yields a great variety of fruit salads, each with its special flavor and devotees. Unfortunately, this trade makes little sense.

Why cross-quadrant sum scores make no sense

First, three of the four separate qualities in the present scheme 1 cannot be measured comprehensively. In Section 3.2, I argued that exhaustive assessment is not possible in the cases of livability, life-ability and usefulness of life. Only happiness can be measured completely, because it is an overall judgment in itself. Where most of the components are incomplete, the sum cannot be complete either. Hence, sum scores are always selective, and therefore say more about *a* good life than about *the* good life.

Second, a look at scheme 1 learns that one cannot meaningfully add *chances* and *outcomes*. A happy and productive life is no better when lived in a perfect environment by a well-endowed person than when realized in difficult circumstances by someone handicapped.

Third, sum scores fail to appreciate the functional relationships between the qualities of life discerned. The value of environmental opportunities depends on personal capacities. An orchestra may be well equipped with violins, but if its members are horn players the musical performance will still be poor. Likewise, the worth of life-abilities depends on the environmental challenges for which they are needed. Their fit counts, rather than the mere amounts.

These contingencies are acknowledged by some scholars, yet the fit of individual and environmental potentialities cannot be observed as such, and at best, we can infer fit from resulting enjoyment of life. Second, there is mostly not one best fit, but several fitting configurations; for example, collectivist and individualistic arrangements can be equally harmonious but still represent quite different qualities.

Why there is most in happiness

When human capacities fit environmental demands, there is a good chance that human needs are gratified. Only bad luck or willful deprivation can block that outcome. Gratification of basic needs will manifest in a stream of pleasant experiences. Biologically this is a signal that we are in the right pond. In human consciousness, this manifests in good mood, and subsequently in satisfaction with life as a whole. See scheme 3. In this view, happiness is both a merit in itself and indicative of good life chances.

Subjective happiness implies two things: first, the minimal conditions for humans thriving are apparently met and, second, the fit between opportunities and capacities must be sufficient. Hence, happiness says more about the quality of life chances than the sum scores do.

This means that at least three of the four qualities of life can be meaningfully summarized by the degree and duration of happiness. Scheme 8 illustrates this view.

Scheme 8 about here

4 CONCLUSION

One cannot meaningfully speak about *quality of life* at large. It makes more sense to distinguish four qualities: livability of the environment, life-ability of the person, usefulness of life for the environment and appreciation of life by the person. These qualities cannot be added; hence, sum scores make little sense. The best available summary indicator is how long and happily a person lives and this appears to be well measurable.

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Scheme 1
Four qualities of life

	<i>Outer qualities</i>	<i>Inner qualities</i>
<i>Life chances</i>	Livability of environment	Life-ability of the person
<i>Life results</i>	Usefulness of life	Appreciation of life

Source: Veenhoven 2000

Scheme 2

Four kinds of appreciation of life

	<i>Passing</i>	<i>Enduring</i>
<i>Life aspects</i>	Pleasure (instant utility)	Domain-satisfaction
<i>Life as a whole</i>	Peak experience	Happiness (life satisfaction)

Source: Veenhoven 2012

Scheme 3

Overall happiness, i.e. life-satisfaction and its 'components'

Overall judgment

HAPPINESS
Satisfaction with one's life as a whole



Components

Hedonic level of affect
Balance of positive and negative affects

Contentment
Difference between wants and reality



Information base

Affective experience

Cognitive comparison

Process

Need gratification

Standard setting

Root

Human nature

Human culture

Source: Veenhoven 2009

Scheme 4

Meanings measured by Ware's SF 36 Health Survey

	<i>Outer qualities</i>	<i>Inner qualities</i>
<i>Life chances</i>		No limitations to work and social functioning Not nervous Energetic General health good
<i>Life results</i>		No pain No bad feelings Happy person

Scheme 5

Meanings measured by Cummins' 'Comprehensive quality of life scale'

	<i>Outer qualities</i>	<i>Inner qualities</i>
<i>Life chances</i>	Income, possessions Social contacts Social position (Safety) Opportunities	Health Productivity Autonomy
<i>Life results</i>	(Productivity) (Social responsibility)	<i>Satisfaction with:</i> Material life Social contacts Social position Safety Freedom

Scheme 6

Meanings measured by Allardt's 'Dimensions of Welfare': having, loving, and being

	<i>Outer qualities</i>	<i>Inner qualities</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)

Note: (h) = having, (l) = loving, (b) = being

Scheme 7

Meanings measured by the UNDP's 'Human Development Index'

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

Scheme 8
Four qualities of life

	<i>Outer qualities</i>	<i>Inner qualities</i>
<i>Life chances</i>	Livability of environment <hr/>	Life-ability of the person
<i>Life results</i>	Usefulness of life	Happy life years

The diagram illustrates the relationship between different qualities of life. A horizontal line is drawn under 'Livability of environment' in the 'Life chances' row. An arrow points from the right end of this line down to 'Happy life years' in the 'Life results' row, indicating that environmental livability contributes to the overall happiness and quality of life.

Source: Veenhoven 2000

NOTES

¹ 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