Soz Präventivmed 1992; 37: 301–306

0303-8408/92/060301-06 $1.50 + 0.20/0

Quality of life: A model for evaluating Health for All. Conceptual considerations and policy implications

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In spite of a long tradition of quality of life (QoL) studies in different sciences such as sociology, psychology and economics there has not been any agreement on a common definition. The lack of definition makes this research area difficult, especially in comparative research. Within the health sector QoL has mainly been approached from the perspective of disease, leaving the basically positive aspects of QoL unexplored. The World Health Organization (WHO) has included quality of life in a recent revision of the Health for All Target Document but has refrained from a definition [1]. In an operative sense, working on the complex issues of quality of life should be an interdisciplinary task, and this requires definitions and frameworks that enable cooperation between the disciplines. The present focus on health promotion in public health increases the demand for studies based on a positive health concept. Only in the last decades have studies of the so-called "salutogenic factors" begun [2–7]. The objective of studying these factors is to emphasize health as a positive resource. However, for the general public and most professionals, health is still closely linked to disease, i.e. a negative concept. Approaching health from the perspective of quality of life, which emphasises positive values and resources, could be a step towards a change.
The aim of this paper is to develop the concept of quality of life as a model for population-based studies in public health research.

What is Quality of Life?

Semantics

In encyclopedias quality is defined as the degree of a capacity often in the sense of a good or first class capacity. In philosophy the word quality means capacities in general. Psychology uses the term as a capacity that can be perceived by our senses (e.g. form, taste, size). Life has been described as a series of physiological processes between birth and death, and as the opposite of death. Biological life can be seen, in its most reduced form, as mere physiological survival while all additions can be considered as adding qualities to life. The combination of the two words, quality and life, can be understood as the essential characteristics of life which, in the general public, is often interpreted as the positive values of life or the good parts of life.

Historical aspects – in search of the Good Life

Creation and the meaning of life, survival and death are some of the central questions that have engaged mankind throughout history. Ideas about these issues are expressed in early myths, religion and philosophy, which have influenced society's attitudes to life and the formulation of general norms for ways of living. In the Western tradition, Plato stated that protected life, where man lives beyond the reach of destiny and chance, was the only worthwhile condition for the good life. Logical reasoning and contemplation of truth were the highest values in life, where man was supposed to escalate above human feelings and perspectives. On the contrary Aristotle, a pupil of Plato, stated that a life without challenge and engagement in human relationships, even when it involved risk-taking, was worthless [8].
A parallel to the different views of Plato and Aristotle can easily be seen in different definitions of health. The WHO health definition that describes a state of complete well-being in a physical, mental and social sense resembles Plato's thinking, while modern dynamic health theories that include risk or stress as natural parts of life resemble Aristotle's definition of the "good life".

Sociology – "being happy"

A seminal work in the development of a scientific approach to quality of life was a sociological study on welfare called "Having, loving and being" [9]. Allardt's innovation was to combine both objective and subjective perspectives on material and immaterial resources and needs when describing welfare.
In Allardt's study, quality of life is defined as the immaterial resources and needs of people, or people's relationships to other people, society and nature (loving and being), and the subjective perceptions of the same. The corresponding material needs and their perceptions (having) were called

level of living. Allardt's ultimate objective is to describe welfare, where the level of living forms the contextual framework of quality of life. Later a tradition of describing subjective perceptions developed, where satisfaction or happiness are the essential components [10,11]. The argument for using such an approach has been that subjective well-being can be interpreted as a total outcome measure of an individual's situation [12]. However, problems arise in comparative studies, since the subjective perceptions are to a large extent individually or culturally determined [13].

Economics – "being rich"

Gross National Product (GNP) per capita has been the traditional measurement of economic growth, and as such has often been regarded as a QoL measurement on a country level. There are, however, several reasons to question the use of GNP as a measurement for anything other than economic growth. First, GNP does not consider the distribution of the economic resources within a population. Second, conditions such as an extended health and social insurance, including for example parental leave, employment for weak groups such as the disabled or mentally retarded, or reduced working hours for parents of small children, are all factors that lower the GNP per capita. Nevertheless, they may make it easier to live in a society and improve the citizens' quality of life. A fact which is often neglected is the lack of evidence that quality of life always corresponds positively to economic growth. According to Mastekaasa [14] there is initially a somewhat linear correlation between an increase in economic standard and QoL, but this then levels out, and there is even a possibility of a decrease in QoL in spite of economic growth.

Reacting to the use of a country's GNP as a measure of the QoL of its citizens the World Bank developed an index called Physical Quality of Life Index (PQLI), which included social and health related variables: infant mortality, life expectancy at the age of one and general literacy rate [15]. Later an index focusing on the needs of children was developed by adding two more variables: children in the labour force (as a health risk factor) and female literacy rate (as a factor enhancing child health) [16]. The greatest use of these indices has been the comparison of conditions between poor and developed nations. Several UN agencies have used similar variables to describe health resources or quality of life in their annual reports (such as the UNICEF report State of the World's Children [17] and the UNDP Human Development Index [18]). However, the value of children seems to change with socioeconomic development; in less developed countries children are considered as an economic asset while they are more of an economic burden in developed countries [19].

Industrialized nations tend to hold the top positions in these indices but, in contrast to the use of GNP only, several nations which have a low GNP score well on these indices. One example is Costa Rica, which can compete with some of the richest nations of the world. Outcome measures such as under-five-year survival of children or accident rates among children tend to correlate positively with high ratings on these indices.

The medical view – "staying normal" on the disease – health axis

The development of caring sciences, new intervention methods and technology has increased the possibilities of survival for people suffering from previously fatal diseases. Attempts to improve the quality of the survival time has also increased the research interest in QoL issues [20]. The medical specialities that have been most concerned with quality of life have usually been related to chronic disease; for example cancer care [21], medical rehabilitation [22] and psychiatry [23], but lately many other medical specialities and policy makers have begun to share this interest. A wide variety of different assessment schemes have been developed both for self-administration and interviews.

Recent reviews of the research area in the medical and health sectors conclude that most studies are concentrating on evaluating the impact of medical interventions on the patients' quality of life [24], or the relationship between terminal malignant disease and quality of life in functional, perceptional and economic terms [25,26].

If the number of published articles is considered, it is clear that there is an increasing interest in the issue. However, few studies take into account the patients' perspective, and there is no comprehensive assessment model in use. Quality of life definitions are mostly lacking, as well as theoretical considerations. The study samples are small, often neglecting socio-economic and demographic variables which have been proved to be associated with the quality of life of the population at large. Quality of life of supporting persons such as the patient's family is often disregarded [27]. One exception is the work on the QoL conditions of mentally retarded children where the perspectives of the consumers, their social support, the professionals and society have been considered [28].

Public Health and Quality of Life

Some representatives of epidemiology, the classic quantitative methodology of public health, have stated that the lack of a precise definition of QoL is a major obstacle to the epidemiological approach [29]. In practice, quantitative methods are often used in quality of life studies. In nursing

science and research on chronic disease several QoL studies have been conducted using a qualitative approach [30,31], but the theoretical QoL issues such as the development of a definition have been given less consideration. Although there is talk about health-related quality of life within public health, the efforts actually made are mainly concerned with registration of symptoms and diseases. There is still a lack of general QoL models that could be applied on a population basis as complements to the disease-related models.

Thus three kinds of models are needed when studying the QoL of a population.

1. General QoL models to describe the QoL resources available for the population.
2. Individualised models to study individuals or small groups. This would require detailed instruments of a qualitative character to cover age-specific and developmental aspects [32].
3. Disease-specific models to assess people with specific diseases or to evaluate medical interventions [33]. They would need to be linked to general QoL models if the disease-specific models are to be generally applicable [22].

Tab. 1. Allardt's model of welfare.

	Objective conditions	Subjective conditions
Level of living	Material resources and needs	Satisfaction with respect to the material conditions
Quality of life	Immaterial resources and needs	Satisfaction with respect to the immaterial conditions

Source: Allardt 1975.

Tab. 2. Summary of central quality of life concepts from various scientific disciplines.

Field of science	Main QoL focus	Objective of QoL studies
Philosophy	The "good life"	Values of life
Sociology	Nonmaterial welfare and well-being	Human needs and wants
Economy	Economic standard	Resources
Behavioural science	Well-being	Mental well-being
Medicine	Normality	Medical interventions

Towards a definition of Quality of Life

When quality of life is discussed with people in general, they usually express their own preferences as their definition of the concept. Some prefer listening to music, some harmony of life, some the intimacy of their partner, some exercise. In everyday language the preferences are usually connected to positive values. The preferences are individual and cannot serve as a definition but they have to be considered when applying criteria for quality of life in practice, especially when dealing with individual perspectives or when the objective is to satisfy people's needs.

The different aspects of quality of life emphasized by different scientific disciplines are summarised in Table 2.

In Table 3, the different aspects are put into one comprehensive model:

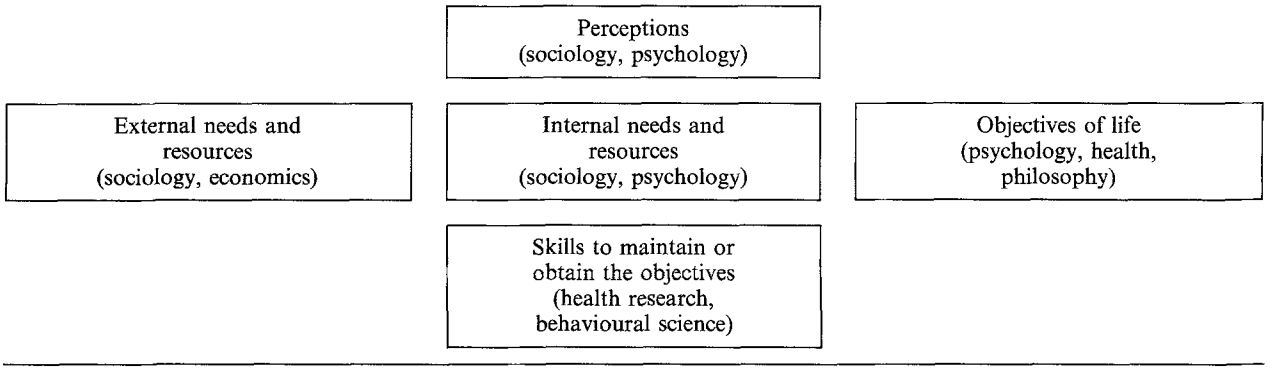
One could argue for a unifying definition that takes all these aspects into consideration, which would have philosophical base in the good life, explore essential social and economic resources, and underline positive resources of physical, mental and spiritual health which all enhance the quality of life of a population. As QoL already has an interdisciplinary acceptance, the topic should be particularly suitable for interdisciplinary research.

A general framework for a definition of quality of life is:

Quality of life is the total existence of an individual, a group or a society

The definition emphasises quality of life as a global concept. The advantage of this approach is the

Tab. 3. A comprehensive model of Quality of Life based on central aspects from various sciences.



demand for an initial consideration of life as a whole.
The open definition serves as a sensitising concept or a reference [34]. This framework should be broad enough to encompass peoples' experience of QoL and give guidance for empirical applications. This approach enables interdisciplinary research since the common framework leaves room for specific interpretations, in this case a specification of the essential spheres of human existence as considered in philosophy, social science, economics and health science. The terms specific to the research area and disciplines involved have to be identified when the theory is applied in practice. The final operationalisation then requires a further breakdown into research variables.
A more dynamic dimension can be added to the QoL concept by the study of factors that enhance the general conditions of life. Models for this approach can be found in research on the origins of health ("salutogenic research") which today forms one basis for health promotion research [2,4,7]. It has been shown that the salutogenic factors correlate positively with QoL [35].

Constructing a general Quality of Life model for public health purposes

A research model for quality of life that responds to the above definition and the intentions of public health policy should have the primary purpose of investigating resources for the population. Such examples can be found in some studies within behaviourial science where objectives for mental health have been set. According to Jahoda [36] the foundation for good mental health is intimately connected to conditions of early development in childhood. An individual who is given optimal conditions for physical, social, mental and spiritual development will also find it easier to obtain a good quality of life.
The criteria for good mental health are: having a positive self-perception, being active and able to develop one's capabilities, being an integrated person, being able to take independent decisions and actions without isolation from other people, having a good sense of reality and empathic skills, and being able to create deep and lasting relationships with other persons, of which at least one is with the opposite sex. In concordance with Jahoda, Hörnquist [37] states that the inner state determined by subjective experiences is of greater significance for quality of life than the external aspects.
In the Nordic countries the Norwegian psychologist Siri Naess developed Jahoda's model further when creating the concept "inner quality of life" [38]. The quality of life increases to a higher level when an individual is active, has good inter-personal relations, a high self-esteem and a basic mood of joy. These values are not ranked in a hierarchy but considered to be equally important. Naess has been criticised for using a system that values strong individualists and disregards solidarity towards society as a whole.
A further development of Naess' ideas towards a model taking into consideration both the psychological inner quality of life concept and societal factors has been made by Kajandi [39], who included three spheres of life: the external, the inter-personal and the inner psychological conditions. This model can be developed further into a general quality of life model if the external conditions are expanded into global conditions and the inner psychological conditions are expanded into personal conditions, admitting both somatic and mental and spiritual dimensions.
The global conditions are meant to describe the macro environment, including political and ecological conditions such as democratic efforts, abidance by international laws, and attempts to preserve the environment, which all enhance the quality of life of the population on a global level. In comparative studies the global conditions may be excluded if the countries or regions studied have similar conditions (as for instance the five Nordic countries), but comparisons between regions with greater differences would need global descriptions.
Each sphere includes a subset of dimensions based on specific variables. For instance, the external sphere would include the dimensions of socio-economic conditions such as work, economic resources and housing conditions, and use variables such as educational level, employment, income level, type of housing and the satisfaction with these. Ideally, both objective and subjective measurements should be included, as recommended by Allardt [9]. Objective conditions and perceived subjective satisfaction should be included in all dimensions. Table 4 shows a general quality of life model.

Tab. 4. A General Quality of Life model.

Spheres	Dimensions (obj/subj)	Examples
Global	1. Macro environment 2. Human rights 3. Policies	Democratic rights Clean environments
External	1. Work 2. Economy 3. Housing	Type of housing Income/employment
Interpersonal	1. Family 2. Intimate 3. Extended	Structure and function of relationship to parents
Personal	1. Physical 2. Mental 3. Spiritual	Growth, development, activity, self-esteem, meaning of life

Base values

For each variable a lowest acceptable level, called the base value, has to be defined. The objective of this is to quantify the resources available to the target population. This would have to be based on conditions recognized to be favourable to the population. The set of base values provides a standard of QoL for a population. This standard has to be adjusted when studying very different populations or societies. Developed and developing societies would have different base values, but nevertheless, the same structure could be used universally in any society.
To study and compare levels of QoL, the percentages of the population that exceed the base values are calculated. The means for each dimension and sphere are thereafter estimated. Ultimately, a general mean will represent the total quality of life by a single number.

Objectives of a Quality of Life evaluation

Since the health concept has been intimately connected with disease, there is a need to look for new concepts that basically carry positive values, in order to enable positive approaches to be made to the public health area. These concepts should mobilise and enhance peoples' health resources instead of exploring only problems and disease. They should also facilitate a cooperation between different disciplines and sectors. It is here suggested that quality of life could serve as a possible framework for this approach. The policy documents of the WHO global health strategy, Health for All (HFA) indirectly show a concern with quality of life issues when stating that: "it is not only a question of adding years to life but adding life to years".
The latest revised version of the HFA target document, adopted at the WHO European Regional Committee meeting in 1991, has given further emphasis to issues of the quality of life in its discussion of people with disabilities. It is stated that quality of life will be strengthened by developing peoples' health potential. People with disabilities could have better opportunities if conditions that promote equal opportunities and positive attitudes towards disability were to be initiated, by creating non-handicapping environments and promoting rehabilitation measures aimed at maximum independence [1]. Thus the allocation and enhancement of health resources and improvement of the quality of life for prioritised population groups is a challenge for public health research [40], and simultaneously supports the philosophy of the HFA movement. A final argument for the advantage of using quality of life as an approach to broad health issues has been formulated by Naess [38], who stated that the quality of life of a society as a whole improves when the conditions of vulnerable groups, such as children and people with special needs, are improved.
In the HFA preamble WHO used four social objectives to focus the impact of the HFA strategy: Equity; Adding Life to Years; Adding Years to Life, and Adding Health to Life. The fulfilment of these objectives could be used as an outcome measurement for the HFA movement. All these issues can be addressed in population based QoL research; the issues of equity and adding of health and years to life can be evaluated by comparing the QoL of groups of people traditionally considered as having a low health outcome with the QoL of the normal, while the issue of adding life to years can be addressed by constructing measures for the quality of life of populations.

Summary

The potential of the quality of life (QoL) concept lies in its basically positive meaning and interdisciplinary acceptance. This can be used when the Public Health sector tries to develop health into a resource concept, as is the intention of the WHO Health For All Strategy. Out of different scientific views on QoL this paper synthetises a theoretical framework of QoL and describes how this concept can be used in practice when evaluating the health resources of a population.

Résumé

Qualité de vie: Un modèle d'évaluation de «Santé pour Tous». Analyse du concept et application
Le concept de qualité de vie a l'avantage de présenter à la base un sens positif et aussi une acceptation interdisciplinaire. Cela peut se révéler utile à un moment où la science de la santé publique essaie de développer la santé selon un concept de moyens et cela constitue un but parmi les directives de Santé pour Tous énoncés par l'OMS (Organisation Mondiale de la Santé). Cette présentation résume un cadre théorique concernant le concept de la qualité de vie, émanant de différentes interprétations scientifiques et montre aussi comment le concept peut être applicable à l'évaluation des ressources de santé dans une population.

Zusammenfassung

Lebensqualität: Ein Modell zur Auswertung von „Gesundheit für Alle". Begriffsanalyse und Folgen des Verfahrens
Das Potential des Begriffs Lebensqualität liegt in der grundliegenden positiven Bedeutung und quer-

wissenschaftlichen Anerkennung. Dieses kann von Nutzen sein, wenn das öffentliche Gesundheitswesen versucht, Gesundheit als einen Hilfsmittelbegriff zu entwickeln, welches das Ziel der Strategien von „Gesundheit für Alle" der WHO ist. Diese Abhandlung schafft einen theoretischen Rahmen aus verschiedenen wissenschaftlichen Anschauungen und beschreibt wie dieser Begriff praktisch in der Auswertung der Gesundheit der Bevölkerung angewendet werden kann.

References

1 *WHO.* Regional Committee for Europe. Forty-First Session, Lisbon, 10–14 September 1991. Copenhagen, WHO, 1991.
2 *Antonovsky A.* Health, Stress and Coping. San Francisco: Jossey Bass, 1979.
3 *Antonovsky A.* Unraveling the Mystery of Health. San Francisco: Jossey Bass, 1987.
4 *Rutter M.* Resilience in the face of adversity. Br J Psych 1985, *147*:598–611.
5 *Anthony EJ.* Children at psychiatric risk. In: Anthony EJ, Koupernik C. (eds.). The Child is his family. New York: Wiley, 1974
6 *Werner EE, Smith RS.* Kauia's Children come of age. Honolulu, University of Hawaii Press, 1977.
7 *Werner EE, Smith RS.* Vulnerable but invincible. A longitudinal study of resilient children and youth. New York: MC Graw Hill, 1982.
8 *Nussbaum MC.* The fragility of goodness. Cambridge: Cambridge University Press, 1986.
9 *Allardt E.* Experiences from the Comparative Scandinavian Welfare Study, with a Bibliography of the Project. European J Political Research 1981; *9*:101–111.
10 *Campbell A, Converse PE, Rogers WL.* The quality of American life: Perceptions, evaluations and satisfactions. New York: Russel Sage Foundation, 1976.
11 *Andrews FM, Whitney SB.* Social indicators of well-being: The development of and measurement of perceptual indicators. New York: Plenum Press, 1976.
12 *Schalock RL.* Quality of life perspectives and issues. Washington DC, American Association on Mental Retardation Special Publications, 1990.
13 *Ingelhart R, Rabier JC.* If you are unhappy this must be Belgium: Well-being around the world. Public Opinion 1985; *2*:10–15.
14 *Mastekaasa A, Moum T, Naess S, Sörensen T.* Quality of life research (Nor). Oslo, ISF Rapport 1988:6.
15 *Morris MD.* Measuring the Condition of the World's Poor: The Physical Quality of Life Index. New York: Pergamon Press, 1979.
16 *Jordan TE.* Developing an international index of quality of life for children: The NICQL Index. JRSH 1983; *4*:127–130.
17 *UNICEF.* State of the World's Children. Oxford, New York: Oxford University Press, 1991.
18 Human Development report, *UNDP* (United Nations Development Programme), New York: Oxford University Press, 1992.
19 *Bulatao RA.* On the nature of the transition in the value of children. Papers of the East West Population Institute, No 60A, 60B, Honolulu, East West Center, 1979.
20 *Kaplan RM, Anderson JP.* The general health policy model: An integrated approach. In: Spiker B. (ed.). Quality of life assessments in clinical trials. New York: Raven Press Ltd, 1990.
21 *Karnofsky DA, Abelmann WH, Craver LF, Burchenal JH.* The use of nitrogen mustards in the palliative treatment of carcinoma: With particular reference to bronchogenic carcinoma. Cancer 1948; *1*:634–656.
22 *Flanagan JC.* Measurement of Quality of Life: Current state of the art, Arch Phys Med Rehabil 1982; *63*:56–69.
23 *Perris H, Hörnquist M, Lundberg S.* Evaluation of the QoL in deinstitutionalised patients and patients in hospitals. (Swe) Report from the Psychiatric Clinic, Umeå, New Series 3, 1983.
24 *Hollandsworth J.* Evaluating the impact of medical treatment on the quality of life: A five year update. Soc Sci Med 1988; *4*:425–34.
25 *de Haes JCJM, van Knippenberg FCE.* The quality of life of cancer patients: a review of the literature. Soc Sci Med 1985; *8*:809–817.
26 *Fowlie M., Berkeley J.* Quality of life – a review of the literature. Family Practice 1987; *3*:226–234.
27 *Najman J, Levine S.* Evaluating the impact of medical care and technologies on the quality of life: A review and critique. Soc Sci Med 1981; *15*:107–115.
28 *Goode D.* Principles and recommendations from the QoL Project. The Mental Retardation Institute New York Medical College, Valhalla New York.
29 *Miettinen OS.* Quality of life from the epidemiologic perspective. J Chron Dis 1987; *6*:641–643.
30 *Strauss AL.* Chronic illness and quality of life. 2nd Edit. CV Mosby Co, ST Louis/Toronto, 1984.
31 *Aaronson NK.* Quantitative issues in health-related quality of life assessment. Health Policy 1988; *10*:217–230.
32 *Lindström B.* Children and Quality of Life (Dan.). In: Fasting U, Michelsen N, Sommer D (eds.). A revolution at knee level. Munksgaard, Copenhagen, 1988:111–128.
33 *Guyatt GH, Bomabardier C, Tugwell PX.* Measuring disease specific quality of life in clinical trials, C.M.A.J. 1986; *134*: 889–895.
34 *Blumer H.* Symbolic interactionism: Perspective and method. Englewood Cliffs, NJ Presentice Hall, 1969.
35 *Dahlin L, Cederblad M, Antonovsky , Hagnell O.* Childhood vulnerability and adult invincibility. Acta Psych Scand 1990; *82*:228–232.
36 *Jahoda M.* Current concepts of positive mental health. New York: Basic Books, 1958.
37 *Hörnquist JO.* Quality of Life. Concept and assessment of quality of life. Scand Journ Soc Med 1989; *18*:69–79.
38 *Naess S.* Quality of Life Research, Concepts, Methods and Applications. Inst of Applied Social Research, Oslo, 1987.
39 *Kajandi M.* Quality of life (Swe). A literature study of quality of life as a concept of behavioural science and a suggestion for a definition. OP Rapport, Ulleråkers sjukhus, Uppsala, 1981.
40 *Drummon MF.* Resource allocation decisions in health care: a role for quality of life assessments? J Chron Dis 1987; 605–616.

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