

Quality of Life: Factors Determining its Measurement Complexity

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Measuring quality of life is currently at the forefront of the various fields of science. In spite of a great interest in quality of life and many attempts to measure it, there is no method of quality of life measurement, which is grounded methodologically and accepted generally. Quality of life remains a contested concept, which is measured in different ways: analyzing one or several factors of quality of life (material well-being and GDP per person), using objective and subjective dimensions, creating composite indices.

Following works and studies of scientists (Cummins, 1996; Diener & Suh, 1997, 1999; Easterlin, 1974, 1995, 2001; Hagerty et al, 2001; Layard, 2005, 2007; Veenhoven, 2000, 2005, 2009), who have analyzed quality of life and its measurement, the present article examines factors determining quality of life and complexity of their measurement. The article raises questions for discussion: what factors are involved in quality of life? How do they determine the quality of life in a particular country? Furthermore, on the basis of theoretical and empirical studies of quality of life, insights into opportunities for the development and implementation of quality of life studies are presented.

A special focus of the present article is on complexity of quality of life measurement, which is primarily dependent of the levels and kinds of quality of life identified in the first part of the article. If studies of quality of life are conducted without having first identified its levels and kinds, this reduces validity and reliability of the results.

Factors of quality of life and their groups are presented in the second part. It is important to note that in the scientific literature only premises for the identification and systematization of factors of quality of life and for analyzing their interrelationships are mentioned, while a wide range of quality of life factors and their different classifications only create a great confusion in quality of life research. Theoretical studies of quality of life measurement indicate that the analysis of one or several factors of quality of life fails to do justice to the topic of quality of life measurement. Measurement of quality of life requires systemic approach involving identification of factors of quality of life and determination of their interrelationships.

Finally, on the basis of theoretical studies of quality of life and empirical research in this field, factors of quality of life are identified, categorized, and united in a single model. In the model of measurement of quality of life two environments of quality of life are identified – external and

internal environment of quality of life. They in turn are divided into four groups of factors, including natural, political, social and economic environments as well as physical, personal developmental, social and material well-beings, which constitute the basis of the theoretical model for measurement of quality of life.

The authors of the article believe that the concepts involving multiple criteria, which are determined by several groups of factors, different factors and indicators reflecting them, are best measured by means of indexes.

Keywords: *quality of life, livability of environment, individual, societal quality of life, objective, subjective quality of life, factors of quality of life, measurement of quality of life.*

Introduction

Quality of life theory, as a separate field of research formed in Western Europe and Northern America and entered a scientific discourse in the 1960's. Since that time the issue of measurement and improvement of quality of life society, community, various social groups and individuals becomes increasingly important not only in solving social and economic problems of society, but also in evaluating effectiveness of various programs and public policy.

Quality of life, which has become a focus of attention of scientists coming from many different fields, is studied by emphasizing different research objects and different researchers study different areas. It is sought to define and measure not only health-related quality of life, health condition of an individual/patient, but also conditions of quality of life from political, economic, and social point of view, as well as individual life satisfaction.

Despite a growing interest in quality of life studies and their topics, measurement of quality of life and identification of factors determining quality of life remains a problem, which has not yet been definitively solved. A wide range of levels and kinds of quality of life are identified in the scientific literature, there is no commonly accepted classification of factors and no common opinion concerning factors affecting quality of life and their interrelations. There is a lack of methodologically well-founded model for measurement of quality of life, which would identify and systematize factors determining quality of life. Absence of a complex measure of quality of life is one of the obstacles, preventing from an objective and accurate measurement of quality of life in a country and from the definition of directions for the improvement of quality of life. All this prompted us to conduct a deeper

analysis of the measurement of quality of life by means of a systemic approach, based on the identification of quality of life factors and their groups and determining their interrelation. Thus, **the scientific problem of the article** may be expressed as a question: what factors and in which ways do they determine quality of life in a country?

The aim of the article – to conduct an analysis of factors determining quality of life, which are identified in the literature, and to formulate a theoretical model for measurement of quality of life.

The object of the research – the factors determining quality of life.

To solve the above problems, a comparative, systemic analysis of scientific literature and systematization methods are used.

Levels and Kinds of Quality of Life

Measurement of quality of life, as a wide and multidimensional concept, is inseparable from the levels and kinds identified in the scientific literature. If studies of quality of life are conducted without having first identified its levels and kinds, this reduces validity and reliability of the results. In the scientific literature the following levels of quality of life are identified: individual, societal, objective, and subjective (see Table 1).

Table 1

Levels of Quality of Life

	OBJECTIVE	SUBJECTIVE
INDIVIDUAL level	Objective living conditions (e.g. income)	Subjective well-being (e.g. satisfaction with income)
SOCIETAL level	Quality/liveability of society (e.g. income disparities)	Liveability of society (perceived importance of disparities)

Source: Delhey, Bohnke et al (2002).

In general terms, objective quality of life is quality of life measured by means of objective criteria, social and economic indicators, without recourse to personal experience and individual perceptions of environment. Subjective quality of life is the perception of well-being and evaluation of own position in life based on experience. The main object of the studies of objective quality of life is an external environment of quality of life and livability of environment. It is evaluated by means of social and economic indicators, their systems and composite indexes. On the other hand, studies of subjective quality of life focus on individually experienced quality of life, which is often measured by means of qualitative methods – various questionnaires and scales (Diener, Suh, 1997).

In order to avoid producing quality of life research results of abstract and speculative nature, advocates of the taxonomic approach (Delhey, Bohnke et al, 2002; Veenhoven, 2000, 2005, 2009) emphasize the necessity to separate individual quality of life, also known as quality of life in nation, from societal quality of life, synonymous to quality of life of a nation. Though both of these levels are closely intertwined (life of a society may not be of high

quality, if individual lives have no quality), M. Kenny (2005) emphasizes that societal quality of life does not equal to the arithmetic sum of qualities of individual lives.

Individual quality of life. It is interesting to note that at the level of individual quality of life R. Veenhoven (2000, 2005, 2009) identifies four kinds, which are depicted in the matrix of individual quality of life (see Figure 1). Novelty of the matrix presented in the Figure 1 arises from classification of quality of life aspects along two dimensions – chances/outcomes and external/internal.

	EXTERNAL	INTERNAL
CHANCES	I. Livability of environment	II. Life ability of a person
OUTCOMES	III. Utility of life	IV. Satisfaction with life

Figure 1. Four Kinds of Individual Quality of Life
Source: Veenhoven (2000, 2005, 2009).

According to S. Dowrick (2007), an individual is living in certain environment, a system, which represents individual quality of life. This is in part echoed by R. Veenhoven (2005, 2009), who also emphasizes that external environment may only create conditions for an individual to seek higher quality of life. The first kind of external quality of life – *livability of environment* researcher treats as *presumed quality of life*. In spite of the point made by R. Veenhoven (2005) that livability of environment constitutes only a precondition for a better individual life, it is this kind of quality of life, which is an object of many of quality of life researchers, their quality of life indexes, and the Social Indicators movement (including those expressing quality of life), which started in 1960. When measuring quality of life, researchers often treat it as a synonym of livability of environment, i.e. the first quadrant of quality of life matrix (see Figure 1), which is often called *living standard* or simply *well-being* by economists and sociologists (Frey, Stutzer, 2002; Raphael, 1996; Veenhoven, 2005, 2009). It is important that identification of quality of life with external living conditions only and failure to take into account other levels of quality of life reduces validity and reliability of quality of life research results. High indicators of natural, political, economic, and social environments often may signal high quality of life in a country, while people may be dissatisfied with life or certain parts thereof. Thus, the second kind of quality of life – *life-ability of a person* encompasses internal capabilities of an individual to utilize external environment, to achieve higher physical and personal developmental well-being. This kind of quality of life is widely analyzed in capabilities literature (Sen, 1993) and often becomes an object of research of medical scientists (Farquhar, 1995; Haas, 1999). Individual's capability to cope with various problems, to seek quality life by means of own internal characteristics, competence, and skills is also analyzed by psychologists (Diener & Suh, 1997; Diener et al., 1999). This kind of quality of life encompasses such aspects as person's health, education, and intellectual capacities. All these characteristics received a lot of attention in the United Nations

Development Program, which resulted in the development of *Human Development* and *Human Poverty* indices.

Figure 1 also depicts the third kind of quality of life – *utility of life*. R. Veenhoven (2000, 2005, 2009) identifies it as a typical sphere for philosophers engaged with issues of individual behavior, morality, and norms as well as with individual’s moral and material contribution to the society. Individual’s utility to the society is treated differently by representatives of various fields of science. Philosophers and moralists try to prove the importance of honest and meaningful life, while economists emphasize the significance of steady income of individual for his own quality of life as well as for that of the society. Sociologists focus on relationships among social groups, individual care for others and selfless, prosocial behavior with regard to the society. We must note here that the third kind of individual’s quality of life also involves the main utilitarian principle of maximum happiness and utility, which means utility not for the actor himself (in this case – the individual), but for everybody related to him. This may be contrasted with the fourth quadrant of the matrix – *internal utility*, which encompasses individual’s happiness and satisfaction.

The fourth kind of individual quality of life – *individual’s life satisfaction* is inseparable from personal experience and perception of environment, measured by means of public opinion surveys. According to R. Veenhoven (2005, 2009), this represents *apparent quality of life* – a product of livability of environment and individual’s ability to make use of opportunities afforded by environment, which should be the focus of quality of life research. In arguments put forth by R. Veenhoven (2005, 2009) one may see a position similar to that of M. Rojas (2007), which is based on the assumption of the necessity of integration of a subjective point of view (life satisfaction surveys) into quality of life research. Measurement of quality of life chances (quality of life kinds I and II) and outcomes (kinds III and IV) would allow more accurate measurement of quality of life in a country and avoid statements about universally high quality of life based on measurement of only one out of four kinds of quality of life.

Societal quality of life. When applied to society, the following kinds of quality of life appear (see Figure 2).

	<i>EXTERNAL</i>	<i>INTERNAL</i>
<i>CHANCES</i>	I. Ecological, political condition	II. Functioning
<i>OUTCOMES</i>	III. Contribution to civilization	IV. Continuity Morale

Figure 2. Four Kinds of Societal Quality of Life
Source: Veenhoven (2005, 2009).

The left top quadrant in Figure 2 denotes the favorableness of nation’s environment. This has physical, political and social aspects. The second kind of societal quality of life denotes the ability of the social system to maintain itself in the given environment. According to R. Veenhoven (2005, 2009), both the right and the left top quadrants denote *presumed quality of life* (there is little

certainty about what people really need) and *life chances*. *Life chances* do refer to the opportunities a society has for a good life. The bottom row of quality of life matrix (see Figure 2) denotes *outcomes of quality of life*. R. Veenhoven (2005, 2009) calls this *apparent quality of life*. In this quality of life the emphasis is on how well society thrive and not what is the instruments for achieving a good life.

The left bottom quadrant in Figure 2 denotes the outcomes of society for its environment. These outcomes can concern the social and physical environment. In the first case quality of life of a society is judged by its impact on human civilization, which means that societal quality of life is higher if it produces significant innovations. In the second case quality of life of a society is judged by its impact on the ecosystem and in this context a society is more well the less damage it causes. Lastly the right bottom quadrant in Figure 2 denotes the meaning of internal outcomes. Societies cannot reflect on themselves in the way individual persons do. Still, there are collectively held beliefs in nations about nation and theses tend to be linked to identification with the country and willingness to fight for the country. So a society is much better the higher the civic morale is.

Analysis of levels and kinds of quality of life allows for generalization and comparison of individual and societal qualities of life and to identify similarities and differences of levels of quality of life (see Table 2).

Table 2

Differences and Similarities in the Concepts of Individual Quality of Life and Societal Quality of Life

	INDIVIDUAL QUALITY OF LIFE	SOCIETAL QUALITY OF LIFE
Synonyms	Quality of life in nation	Quality of life of nation
Concept description	Explicit, denotes how well individuals live, break down quality of life into a series of domains, usually incorporate ideas of satisfaction/ dissatisfaction or happiness/unhappiness	Implicit, focus on a small number of the dimensions of societal quality of life, highlight the stability, ideality and productivity of society
Measurement	Livability of environment, life ability of a person and happiness, life satisfaction – measured by quantitative, qualitative research, objective measures and self-assessment instruments, i.e. a questionnaire	Societal quality of life measured by macro indicators. Often these are aggregated to construct a single index of quality of life of society and encompasses freedom, equality, justice dimensions
Level	Macro and micro	Macro

Both individual and societal quality of life is the object of the research of social science. In spite of the differences between these two kinds of qualities (there is a wide range of definitions, distinction between measures) individual quality of life (quality of life in nation) is often used interchangeably with the following terms: societal quality of life, quality of life of nation which brings more confusion about what quality of life is.

Analysis of levels and kinds of quality of life allows asserting that their identification is very important for both conceptualization and measurement of quality of life. A

failure to identify different levels and types of quality of life results in inaccurate quality of life research results and limited opportunities for objective assessment of economic and social problems, as well as effectiveness of various programs and economic policy.

Factors of Quality of Life and Their Classification

Analysis of levels and kinds of quality of life revealed that the essence of the concept of quality of life may be more accurately revealed not by trying to define the concept, but by conducting a more detailed analysis of factors and their groups affecting quality of life. Though researchers (Cummins, 1996; Felce & Perry, 1997; Haas, 1999; Hagerty et al., 2001; Susniene, Jurkauskas, 2009; Veenhoven, 2000, 2005) are unanimously agree on complexity of the concept of quality of life and on necessity of evaluating it by means of various factors, there is no universally accepted classification of factors and no unanimous opinion concerning factors determining quality of life and relationship among those factors. Scientific literature is only examining assumptions, which may be used for identification and systematization of factors affecting quality of life and to analyze relationship among those factors.

Authors analyzing quality of life agree that it is determined by internal and external environment (Cummins, 1996; Hagerty et al., 2001; Veenhoven, 2000; 2005; 2009). Level of development of a country, political and socioeconomic environment allows people to live well and to seek quality of life. Whether individuals are able to make use of the internal environment, to seek higher physical, personal development, material, and social well-being, and it is determined by the internal environment. On this basis two groups of factors determining quality of life may be identified (Figure 3).

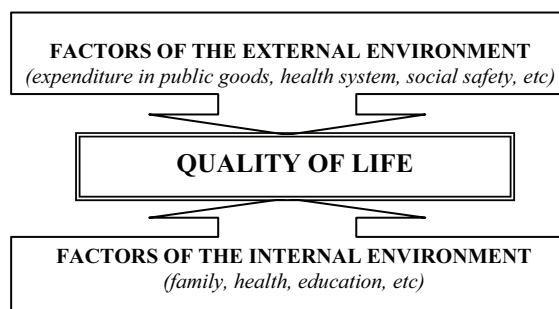


Figure 3. Groups of Factors Affecting Quality of Life

The first group of factors include both the factors, which may not be regulated by public policy measures (climate conditions and their indicators, geographical position of the country), and those which are affected by public policy actions (political stability, corruption, economic growth, social security, etc.). The second group of factors consists of those factors, which may be to a significant extent controlled by a person, as a holder of

rights and freedoms, himself (health condition, educational achievement, family, leisure, etc.).

B. Lindstrom & B. Ericsson (1993) suggest classifying factors determining quality of life into more specific categories, depending on what sphere they represent: global, external, interpersonal, or personal (see Figure 4).

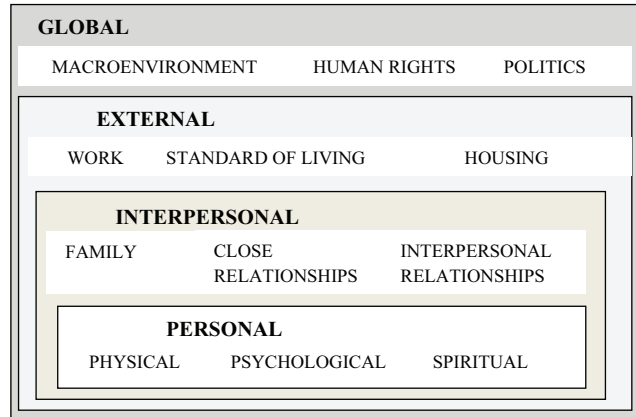


Figure 4. Classification of the Factors of Quality of Life
Source: Lindstrom, Ericsson (1993).

Authors (Lindstrom, Ericsson, 1993) call the classification of quality of life factors depicted in the Figure 4 universal and recommend to apply it for assessment of quality of an individual, a social group, and a society. Having a certain hierarchical arrangement (from quality of life in the most general sense – global environment, external environment – to factors relating to interpersonal and personal sphere – social relationships, family, health, personality development), factors affecting quality of life provide for measurement of quality of life of the aforementioned subjects.

It is necessary to note that, taking into account the multidimensionality of the concept of quality of life, one or several factors are not able to produce a thorough reflection of issues related to measurement of quality of life, thus scientific literature presents a wide range of factors determining quality of life.

The result of the analysis of works of authors (Sen, 1993; Cummins, 2000; Felce & Perry, 1997; Hagerty et al., 2001; Kenny, 2005) studying factors determining quality of life is the list of factors determining quality of life (see Table 3). Different authors present peculiar views on factors determining quality of life and treat them differently, which make quality of life research more difficult. For example, D. Felce & J. Perry (1997) describe social well-being as a group of factors belonging to internal environment of quality of life and including factors of personal relationships, family, friends, and public life. On the other hand, other researchers using a group of social well-being factors for measurement of quality of life treat these factors as belonging to the external environment and measure them using social security indicators. The health factor may be considered to be the least controversial in quality of life studies. It is mentioned in most definitions of quality of life and included in almost all indexes measuring quality of life. It

is also the leading indicator in terms of its weight in quality of life. Political stability, civic rights, independence, religiousness, gender equality – these are specific factors, identified on the basis of specific public opinion surveys and proving importance of the cultural context and system of values in quality of life studies.

Table 3

The Factors of Quality of Life

Authors	A. Sen (1993)	R.A. Cummins (2000)	M. R. Hagerty (2001)	Felce & J. Perry (1997)	M. Kenny (2005)
Macroeconomic environment	x				x
Material well-being		x	x	x	
Political stability					x
Civil liberties				x	x
Social well-being				x	
Climate					x
Health	x	x	x	x	x
Education	x				
Personal security		x	x		
Work		x	x	x	
Job security					x
Community life		x	x		x
Family		x	x		x
Gender equality					x
Spirituality					x
Emotional well-being		x	x	x	

Measurement of quality of life in a country requires complex examination of factors affecting quality of life, without overemphasizing one factor or another. If one factor has a negative impact on quality of life, such impact may be compensated by a positive impact of another factor, which may still result in high quality of life. Measurement of quality of life requires a systemic approach, involving identification of factors affecting quality of life and their groups and determination of relationships among them. All natural, political, economic, and social factors form an integral system, in which they are interrelated.

The main groups of factors affecting quality of life and identified in various fields of science, are the following:

- physical well-being (health condition, functional condition);
- material well-being;
- social well-being.

A group of factors, **physical well-being**, is one of the key elements in most quality of life studies (Felce & Perry, 1995; Haas, 1999; Hagerty et al., 2001). According to D. Felce & J. Perry (1995), physical well-being includes such factors as health condition, independence (ability to move and work), and personal security. In clinical practice, this group of factors encompasses physical condition (pain and unpleasant sensations; energy and fatigue; sleep and rest) and functional condition (individual’s physical capacity, communication ability, emotional condition). The latter factor describes individual’s ability to perform daily tasks. R. L. Schalock (2004) suggests a wider understanding of physical well-being and supplements health factors (physical condition, nutrition, activity) with leisure – rest, entertainment, and hobbies.

From the economic point of view, another group of factors affecting quality of life is important. It is **material well-being**. When analyzing it as a group of external

environment factors of quality of life, a macroeconomic situation of a country (economic activity, macroeconomic stability) and the role of the state in economic life of the country are assessed. On the other hand, on the level of individual’s quality of life, material well-being includes such factors as a financial situation (income and accumulated wealth), living/housing conditions, and employment (Easterlin, 1995, 2001; Felce & Perry, 1995; Schalock, 2004; Susniene, Jurkauskas, 2009). It is interesting that according to the results of studies conducted by psychologists (Kahneman et al., 1999) and economists (Easterlin, 1974; Scitovsky, 1976; Layard, 2005), relationship between average happiness and average income is not direct – after a certain level of income is reached, no further gains in quality of life are observed. Thus, the importance of material well-being, as an internal factor affecting quality of life, decreases. To explain this, British economist R. Layard (2005, 2007) uses the principles of habit and rivalry. First, people quickly get used to higher income, thus it does not provide such a great satisfaction, as one might expect. Also, peoples’ perception about minimum income, which would be sufficient for subsistence, is constantly changing. Second, people tend to compare themselves with their social environment – family, neighbors, friends, colleagues. Income and accumulated wealth is no exception. According to happiness researcher, economist J. S. Duesenberry (1949), it is not only the absolute income, which is important to the person, but also the relative one in comparison to other members of the society. When everybody’s income is growing, there will be some, which will still feel unhappy, if their income is growing less quickly than that of the relative leader of the group.

Social well-being constitutes probably the largest group of factors affecting quality of life and is gaining prominence in quality of life research. Such factors as income and material assets are pushed aside by social well-being factors, bringing family, social life, and leisure to the center of the stage. The drive of the industrial consumer society to earn as much money as possible reduced amount of free time and disrupted work-rest balance, hence the importance of leisure and time with a family for quality of life had grown.

To summarize, a wide range of quality of life factors and different their classifications suggested by scientific literature creates a great confusion in quality of life research. The authors believe that measurements of quality of life should take into account multidimensionality of the concept of quality of life. To increase validity and reliability of quality of life research results, quality of life should be measured using systemic approach characterized by the identification of factors and their groups and determination of relationships among them.

Theoretical Model for Measurement of Quality of Life

On the basis of analysis of scientific literature and results of quality of life studies, the factors of quality of life have been identified, and can be united into a single model (see Figure 5). Theoretical Model for Measurement

of Quality of Life has been formulated on the basis of the following main principles:

- Simplicity – the model and results yielded by it should be clear and easy to interpret.
- Reliability and objectivity – the structure of the model must be logically sound, while the model itself must be methodologically and empirically well-founded.
- Complexity – the model should analyze quality of life from various perspectives and to include a range of quality of life factors and indicators reflecting them.
- Comparability – results obtained using the model should allow the comparisons of quality of life of people living in different countries both among themselves and in time.
- Universality – the model should be universal, should have a clear practical purpose, i.e. its results should be useful for public policy.

The model of quality of life distinguishes external and internal environment, each of them in turn containing four groups of factors. External environment of quality of life encompasses factors, which are not regulated by public policy (climate conditions, quality of natural environment) and those regulated by public policy (political stability, political rights and civil liberties, corruption, economic growth, social security, etc.). Those factors, which mostly depend on the individual himself, are classified as belonging to the internal environment of quality of life.

The analysis of the scientific literature (Ginevicius, Podvezko, 2009; Kilijoniene, A., Simanaviciene, Z. et al., 2010; Snieska, Bruneckiene, 2009) allows stating that it is difficult to identify and relate the most important factors of external macro-environment and internal environment having a positive influence on quality of life in a country. The Model for Measurement of Quality of Life details only the main factors in the external and internal environments of quality of life, which constitute preconditions for citizens of a particular country to seek and maintain quality of life. We will discuss each group of quality of life factors in more detail.

Natural environment. Research indicates that individual opportunities to seek quality of life to a large extent depend on natural environment and its quality. In spite of still conflict-ridden relationship between a consumer society and nature, both scientific literature (Kalenda, 2002; Tooman, 1998) and public policy makers more and more often speak about the quality of natural environment as a value. It is interesting to note that adverse climate conditions, poor biological and landscape diversity, increasing energy demands resulting in growing greenhouse gas emissions have negative effects not only on balance of ecosystems, but on people's quality of life as well. This means that average life expectancy is decreasing, prevalence of cancer cases is increasing, thus negatively impacting one of dimensions of quality of life, i.e. health and the decrease of the general quality of life. Natural environment and everyday living of the society is significantly affected by any considerable changes in climate: extreme weather conditions with long periods of high heat followed by floods impact external environment

of quality of life, i.e. damages both natural and economic environment.

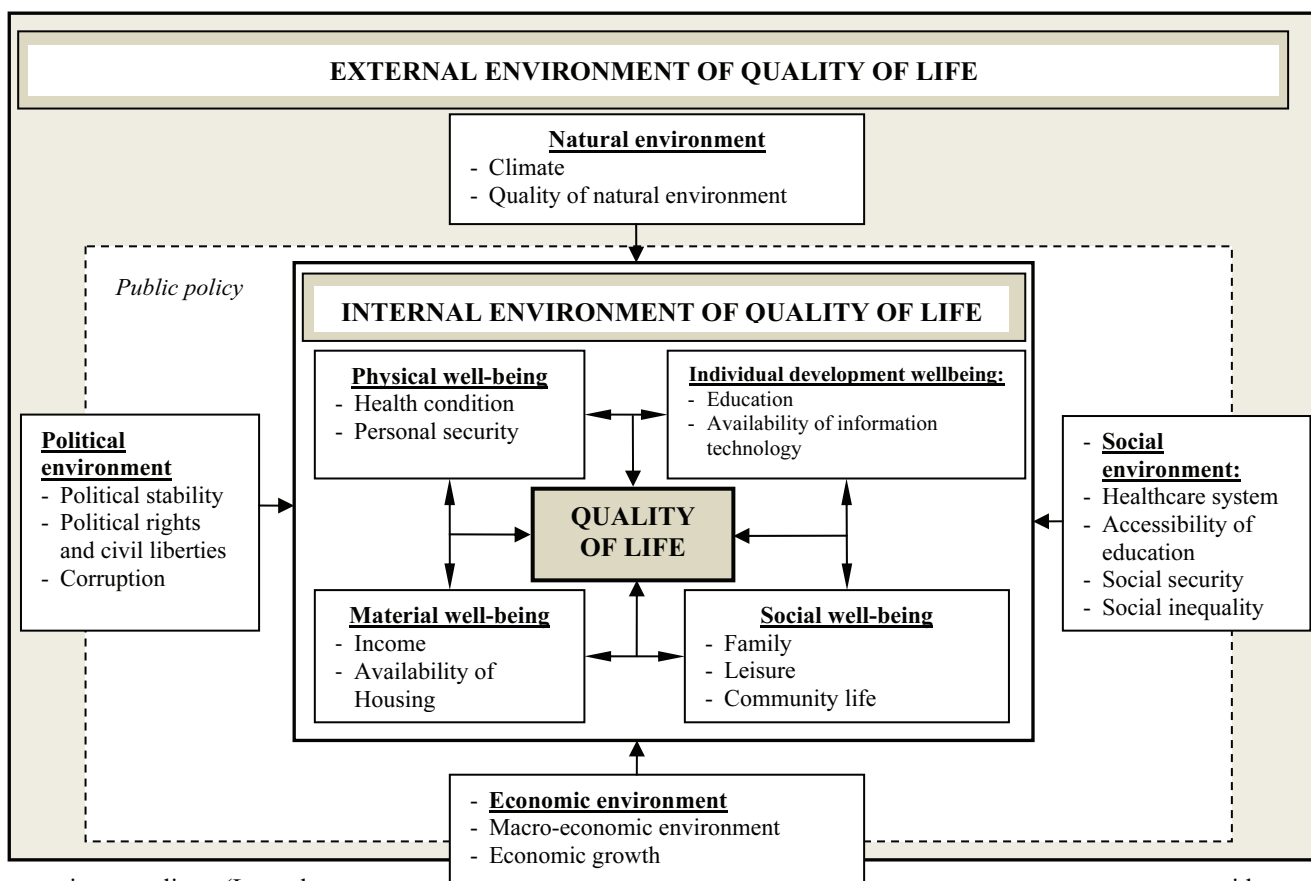
Political environment. Both empirical studies and experience of foreign countries indicate that countries with long-standing democratic traditions and unrestricted human rights and liberties have better chances for achieving high quality of life than those countries, which have totalitarian regimes, unstable political situation, and flourishing corruption and crime. Restriction of civil rights and liberties, violation of human rights restrict possibilities for citizens to live a high quality life and reduces their life satisfaction. Former Soviet Union is the best example of a country, in which the forces of industrial collectivization and negative attitudes towards initiative (restriction of political rights and liberties) pushed huge numbers of people into poverty.

Along with a freedom dimension, the impact of one of the key political values – political stability on quality of life should also be studied. Instability of the institutes of power in general and the government in particular has a negative impact not only on the quality of governance of the state, but also on citizen's confidence in the government and satisfaction with its policies, which in turn leads to reduced quality of life.

Economic environment. Not only political, but also economic stability is important, as it is emphasized in stability and convergence programs often developed by foreign countries. In the economic environment economic growth is emphasized and it is measured in quality of life studies taking into account the importance of sustainable development. In quality of life studies the importance of GDP growth, which is closely tied to unrestrained consumption, is supplemented by the principle of sustainability-responsibility, which constitutes a basis for provision of quality of life not only for the present generation, but for future generations as well. According to the concept of sustainable development, appropriate quality of individual's life and well-being and safety of the society must be ensured by careful coordination of economic, social development, and environment protection needs.

Social environment (living and working conditions, accessibility of education and healthcare services, social inequality), in which a person is living and other people and organizations (family, friends, various communities) with which he is interacting directly affects person's quality of life. It must be noted that large differences in social environments in various countries determine the growing differences in quality of life: there are significant differences in life expectancy and morbidity between the wealthy and the poor, the well-educated and uneducated, manual workers and professionals. Public sector is responsible for a large part of the latter aspects of the social environment. Therefore, it is natural that accessibility of public services, investment into the human capital (education, health, and social security) is considered to be a part of external environment of quality of life, which is usually regulated by means of public policy.

Research indicates that the highest quality of life is found in the Scandinavian countries promoting social-



economic equality (Layard, 2005, 2007). These research results are confirmed by Wilkinson & K. Pickett (2009), accidents, who have been analyzing impact of inequality of quality of life. Having summarized works of other scientists, in their book *The Spirit Level: Why Greater Equality Makes Societies Stronger* these researchers have come to the key conclusion that the higher inequality in a country is, the poorer is quality of life of its citizens. Research indicates that in the countries characterized by higher inequality physical well-being indicators are lower (shorter average life expectancy, higher child mortality) and personal development is lagging – literacy rates and general education level are low. To summarize, groups of factors describing the external environment of quality of life (natural, political, economic, and social environment) and factors identified in the Model for Measurement of Quality of Life provide for complex assessment of macro-environment in terms of its livability, which R. Veenhoven (2005, 2009) calls *presumed quality of life*. Factors of this environment describe whether people are living in clean environment, what is the level of corruption and political stability in a country, what political rights and civil liberties do citizens have, whether they may use basic healthcare and education services, what is macro-economic situation in the country. **Internal environment of quality of life.** It is important that measurement of quality of life may not be separated from the individual and his internal environment: whether he is healthy and protected from criminal acts and

who have been analyzing impact of inequality of quality of life. Having summarized works of other scientists, in their book *The Spirit Level: Why Greater Equality Makes Societies Stronger* these researchers have come to the key conclusion that the higher inequality in a country is, the poorer is quality of life of its citizens. Research indicates that in the countries characterized by higher inequality physical well-being indicators are lower (shorter average life expectancy, higher child mortality) and personal development is lagging – literacy rates and general education level are low.

To summarize, groups of factors describing the external environment of quality of life (natural, political, economic, and social environment) and factors identified in the Model for Measurement of Quality of Life provide for complex assessment of macro-environment in terms of its livability, which R. Veenhoven (2005, 2009) calls *presumed quality of life*. Factors of this environment describe whether people are living in clean environment, what is the level of corruption and political stability in a country, what political rights and civil liberties do citizens have, whether they may use basic healthcare and education services, what is macro-economic situation in the country.

Internal environment of quality of life. It is important that measurement of quality of life may not be separated from the individual and his internal environment: whether he is healthy and protected from criminal acts and

In the Model for Measurement of Quality of Life this is called internal environment of quality of life encompassing four groups of factors: physical well-being (health condition and personal security), individual developmental well-being (education and availability of information technology), social well-being (family, leisure, and community life) and material well-being (income, availability of housing).

When discussing factors of the external environment of quality of life and substantiating impact of the relevant factors on quality of life it is important to remember the pyramid of needs suggested by 20th century humanistic psychology pioneer A. Maslow (1955), in which basic human needs constitute a hierarchy. First of all, a human being needs air, food, and water – these are physiological needs. Before these needs are met, people hardly think about other needs, such as respect and self-actualization. It is only after we have satisfied our basic needs that we seek security. A person needs not only physical security (e.g. housing), but also social security, including protection of health, family, and property, and presence of laws and moral norms in the community. Communication (social) needs become relevant after physiological and security needs have been met. In the course of communication recognition needs arise. Not only we want to communicate, but also to be recognized, respected in the society (social life is important). And finally, each person is looking for

spirituality, for various ways of actualizing himself. Self-actualization needs are related to personal improvement (individual developmental well-being) and a search of meaning and happiness in life.

Despite quite harsh criticisms, which A. Maslow's theory attracted for its rigidity and schematic nature, it is beyond doubts that only very few individuals may achieve high status or respect in the society, to seek ways to actualize themselves, and in generally to be happy while living in poverty. People need at least elementary material (income and housing), physical (health, personal security), and later also individual development and social well-being (family, leisure, public life), which in turn are perceived differently by different people. Researchers (Cummins, 1996, 2000; Felce & Perry, 1995, 1997; Hagerty et al., 2001; Haas, 1999; Kenny, 2005; Veenhoven, 2000, 2005, 2009) unanimously agree that high quality of life may be achieved by a free, healthy, physically, materially, and socially secure person, who is seeking to grow and actualize himself, to be recognized and respected in the society. The totality of the aforementioned quality of life factors determine quality of life in the country, i.e. if one or several quality of life factors have a negative impact on quality of life, it may still remain high, as the negative impact produced by some factors may be compensated by the positive impact produced by other factors. Thus, it is important to measure quality of life in all its complexity. The researches (Ciegis et al, 2009; Hagerty et al, 2001; Kenny, 2005; Snieska, Bruneckiene, 2009) proved that the measurement by a composite index helps to solve the problem of complexity.

It must be noted that each factor identified in the Model for Measurement of Quality of Life (see Figure 5), has a different impact on quality of life. Having identified and classified factors affecting quality of life, it is necessary to identify indicators reflecting the factors affecting quality of life, which constitutes the purpose of further studies by the authors of the present article and which will provide for development of a mathematical model for measurement of quality of life.

Conclusions

- The theory of quality of life is one of the most confused and difficult summarized fields of research, because of the complexity of the concept, plenty and variety of the factors determining quality of life, a wide range of levels and kinds identified in the scientific literature. Explicit research object (individual or societal, objective or subjective quality of life is measured), identified and analyzed the main factors determining

quality of life, increased validity and reliability of the results of research of quality of life.

- One or several factors cannot characterize and measure quality of life fully enough. If one or several quality of life factors have a negative impact on quality of life, it may still remain high, as the negative impact produced by some factors may be compensated by the positive impact produced by other factors. That is why complex evaluation of quality of life is necessary.

- Scientific literature presents a wide range of factors determining quality of life. Different authors present peculiar views on factors determining quality of life and treat them differently, which make quality of life research more difficult. The main factors affecting quality of life and identified in various fields of science, are the following ones: freedom, political stability, economic environment, accessibility of education, social security - factors of external environment; health condition, personal security, educational achievement, family, income, housing - factors of internal environment.

- The authors of the article present the Theoretical Model for Measurement of Quality of Life. External environment of quality of life encompasses four groups of factors: natural environment (climate conditions, quality of natural environment), political environment (political stability, political rights and civil liberties, corruption), social environment (healthcare system, accessibility of education, social security, social inequality), and economic environment (macro-economic environment and economic growth). Those factors, which mostly depend on the individual himself, are classified as belonging to the internal environment of quality of life, are the following: physical well-being (health condition and personal security), individual developmental well-being (education and availability of information technology), social well-being (family, leisure, and community life), and material well-being (income, availability of housing). Inclusion of external and internal environment of quality of life, factors, which are affected by public policy actions and factors, which may be to a significant extent controlled by a person, as a holder of rights and freedoms, himself shows a complex view to the measurement of quality of life.

- Theoretical Model for Measurement of Quality of Life substantiates intricacy and complexity of measurement of quality of life. Definition of indicators reflecting the factors identified in the model would provide for development of a mathematical model for measurement of quality of life and a complex quality of life index to be used for quantitative measurement of quality of life in a country.

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Gyvenimo kokybę sąlygojantys veiksniai ir jos vertinimo kompleksiskumas

Santrauka

Gyvenimo kokybės teorija susiformavo ir kaip atskira tyrimų sritis į mokslo diskursą įsiliejo XX a. septintajame dešimtmetyje Vakarų Europoje ir Šiaurės Amerikoje. Nuo to laiko visuomenės, bendruomenės, atskirų socialinių grupių ir individo gyvenimo kokybės vertinimo ir jos gerinimo klausimas tampa vis reikšmingesnis ne tik sprendžiant socialines ekonomines visuomenėje iškilančias problemas, ieškant priemonių, kurios skatintų siekti aukštesnės gyvenimo kokybės, bet ir vertinant įvairių programų, viešosios politikos efektyvumą.

Nepaisant didėjančio susidomėjimo gyvenimo kokybės koncepcija ir jos vertinimo problematika, gyvenimo kokybės samprata ir jos vertinimas lieka sudėtinga, galutinai neišspręsta problema su daugybę skirtingų apibrėžimų, interpretacijų ir gyvenimo kokybės matų. Pasigendama metodologiškai pagrįsto gyvenimo kokybės vertinimo modelio, kuriame būtų išskirti ir susisteminti pagrindiniai gyvenimo kokybę sąlygojantys veiksniai. Priklausomai nuo tyrimo siekiamų tikslų, gyvenimo kokybei vertinti taikomos įvairios metodikos: klausimynai ir skalės visuomenės nuomonės tyrimams atlikti (pvz., Eurobarometro apklausos; R. A. Cummins gyvenimo kokybės vertinimo skalė), gyvenimo kokybę tapatinant su materialine gerove – pavieniai ekonominiai rodikliai (pvz., BVP 1 gyventojui), klinikiniai, sveikatingumo parametrai su sveikata susijusiai gyvenimo kokybei tirti (PSO-100), sudėtiniai indeksai (pvz., žmogaus socialinės raidos indeksas, tyrimų padalinių prie žurnalų *The Economist*, *International Living* sudaryti indeksai gyvenimo kokybei vertinti). Šie sudaromi į gyvenimo kokybės vertinimą įtraukiant vien tik makro- ar mikroaplinkos, objektyvią ar subjektyvią gyvenimo kokybę sąlygojančius veiksnius. Vienas ar keli ekonominiai socialiniai rodikliai visapusiškai neįvertina gyvenimo kokybės šalyje, todėl jai vertinti tikslinga taikyti kompleksinį vertinimą. Kompleksinio gyvenimo kokybės vertinimo priemonės nebuvimas tampa viena iš kliūčių, trukdančių objektyviai ir tiksliai įvertinti gyvenimo kokybę šalyje bei formuoti gyvenimo kokybės gerinimo kryptis. Visa tai paskatino giliau išanalizuoti gyvenimo kokybės vertinimą naudojant sisteminį požiūrį, pasižymintį gyvenimo kokybės veiksnių ir jų grupių išskyrimu bei ryšių tarp jų nustatymu. Todėl **mokslinė problema** straipsnyje keliama klausimu: kokie veiksniai ir kaip jie lemia gyvenimo kokybę šalyje.

Mokslinio darbo tikslas – atlikti mokslinėje literatūroje išskiriamų gyvenimo kokybę lemiančių veiksnių analizę ir parengti teorinį gyvenimo kokybės vertinimo modelį.

Tyrimo objektas – gyvenimo kokybę sąlygojantys veiksniai.

Tyrimo metodai: lyginamoji, sisteminė ir loginė mokslinės literatūros analizė.

Gyvenimo kokybės kaip plačios ir įvairialypės koncepcijos vertinimas yra neatsiejamas nuo mokslinėje literatūroje išskiriamų gyvenimo kokybės lygių ir tipų. Gyvenimo kokybės tyrimų vykdymas prieš tai neišskyrus jos lygių ir tipų mažina rezultatų validumą ir patikimumą. Šiame straipsnyje analizuojami pagrindiniai mokslinėje literatūroje išskiriami gyvenimo kokybės lygiai (individo, visuomenės, objektyvus ir subjektyvus) ir jiems vertinti naudojami priemonės. Kiekvienas gyvenimo kokybės lygis skirstomas į keturis tipus pagal dvi dimensijas – įėjimo ir išėjimo (angl. *input, output*), išorinę ir vidinę kokybę. Straipsnyje akcentuojama būtinybė išskirti dažnai sinonimiškai iš anglų kalbos verčiamas ir vartojamas sąvokas: individo gyvenimo kokybę (gyvenimo kokybę šalyje) ir visuomenės gyvenimo kokybę. Konkreti, dažnai suasmeninta individo gyvenimo kokybės samprata yra priešprieša visuomenės gyvenimo kokybės sampratai, kuri akcentuoja visuomenės stabilumą, produktyvumą, idealumo kriterijus, į pirmą vietą išskeldama darnaus vystymosi idėją, ir yra vertinama tik makrolygiu. Tiksliai apibrėžtas tyrimo objektas (vertinama individo ar visuomenės gyvenimo kokybė) ir išskirti gyvenimo kokybės tipai padidina gyvenimo kokybės tyrimų rezultatų validumą, praplečia praktinio jų taikymo galimybes.

Gyvenimo kokybės vertinimo kompleksiskumą sąlygoja ne tik mokslinėje literatūroje išskiriama gyvenimo kokybės lygių ir tipų gausa, bet ir ją sąlygojančių veiksnių gausa. Nors tyrėjai (Cummins, 1996; Felce & Perry, 1997; Haas, 1999; Hagerty ir kt., 2001; Veenhoven, 2000, 2005) vieningai sutaria dėl gyvenimo kokybės sampratos kompleksiskumo ir jos vertinimo naudojant skirtingus veiksnius, visuotinai priimtos veiksnių klasifikacijos ir vieningos nuomonės apie gyvenimo kokybę lemiančius veiksnius bei jų tarpusavio ryšį nėra. Mokslinėje literatūroje minimos tik prielaidos, kuriomis remiantis galima išskirti ir sisteminti gyvenimo kokybės veiksnius, analizuoti ryšius tarp jų. Pagal tai, kas (viešojo politika ar pats žmogus) ir kokio kryptimi (iš išorės ar vidaus) veikia gyvenimo kokybę, galima išskirti dvi gyvenimo kokybės veiksnių grupes: išorinės aplinkos veiksnių grupę ir vidinės aplinkos veiksnių grupę. Skirtingi autoriai pateikia savita požiūrį į gyvenimo kokybę lemiančius veiksnius ir juos traktuoja įvairiai, kas apsunkina gyvenimo kokybės tyrimus. Pagrindiniai mokslinėje literatūroje išskiriami gyvenimo kokybės veiksniai: laisvė, saugumas (darbo, asmeninis, politinis), sveikata, šeima, gyvenimo lygis, švietimas ir visuomeninis gyvenimas.

Tyrimai parodė, kad, siekiant įvertinti gyvenimo kokybę šalyje, gyvenimo kokybės veiksnius būtina nagrinėti kompleksiskai, neišskiriant vieno ar kito veiksnio. Vienam veiksmui neigiamai veikiant gyvenimo kokybę, jo neigiamą poveikį gali kompensuoti kito veiksnio daroma teigiama įtaka ir gyvenimo kokybė vis tiek gali būti aukšta. Gyvenimo kokybei vertinti reikalingas sisteminis požiūris, pasižymintis gyvenimo kokybės veiksnių ir jų grupių išskyrimu bei ryšių tarp jų nustatymu. Visi gamtiniai, politiniai, ekonominiai ir socialiniai veiksniai sudaro vientisą sistemą, kurioje jie tarpusavyje susiję.

Siekiant įvertinti gyvenimo kokybę kaip kompleksinį ir daugeliu dimensijų vertinamą reiškinį, sudarytas teorinis gyvenimo kokybės vertinimo modelis. Teorinis gyvenimo kokybės vertinimo modelis pagrindžia gyvenimo kokybės vertinimo sudėtingumą ir kompleksiskumą. Modelyje išskiriama išorinė ir vidinė gyvenimo kokybės aplinka, o kiekvienoje jų – po keturias veiksnių grupes. Išorinės gyvenimo kokybės aplinkos veiksniai grupuojami į: gamtinės aplinkos veiksnius (klimato sąlygos ir gamtinės aplinkos kokybę), politinės aplinkos veiksnius (politinis stabilumas, politinės teisės ir pilietinės laisvės, korupcija), socialinės aplinkos veiksnius (sveikatos apsauga, švietimo aprūpinimas, socialinė apsauga, socialinė nelygybė) ir ekonominės aplinkos veiksnius (makroekonominė aplinka ir ekonominis augimas). Antroji gyvenimo kokybės vertinimo modelio dalis jungia vidinės aplinkos veiksnius, kuriuos daugiausia gali kontroliuoti pats žmogus kaip teisių ir laisvių turėtojas ir kuriems kartu būdinga priklausomybė nuo išorinės makroaplinkos. Šie veiksniai suskirstyti į: fizinę gerovę (sveikatos būklė ir asmeninis saugumas), asmens vystymosi gerovę (išsimokslinimo pasiekimas ir apsirūpinimas informacinėmis technologijomis), socialinę gerovę (šeima, laisvalaikis ir visuomeninis gyvenimas) ir materialinę gerovę (pajamos, apsirūpinimas būstu). Svarbu tai, kad tarp vidinės aplinkos veiksnių ir jų grupių taip pat egzistuoja grįžtamieji ryšiai. Reikia pastebėti, kad kiekvienas veiksnys, išskirtas gyvenimo kokybės vertinimo modelyje, daro skirtingą įtaką gyvenimo kokybei. Nustačius gyvenimo kokybės veiksnius ir supapravus juos, yra būtina nustatyti rodiklius, atspindinčius gyvenimo kokybės veiksnius. Tai yra tolesnio autorių tyrimų tikslas, leisiantis sukurti matematinį gyvenimo kokybės vertinimo modelį ir kompleksiniu gyvenimo kokybės indeksu (I_{GK}) kiekybiškai įvertinti gyvenimo kokybę šalyje.

Raktažodžiai: gyvenimo kokybė, individo, visuomenės gyvenimo kokybė, objektyvi, subjektyvi gyvenimo kokybė, gyvenimo kokybės veiksniai, gyvenimo kokybės vertinimas.

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