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VALIDATION STUDY ON THE SUBJECTIVE AND OBJECTIVE QUALITY OF LIFE OF EMPLOYEES – THE CASE OF THE REPUBLIC OF SERBIA

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Abstract. *In this paper, the validity and reliability of the Comprehensive Quality of Life Scale-A5 (ComQoL-A5) was evaluated on a sample of 761 employees in production and service activities in the City of Niš. The research was carried out using the Cronbach α internal consistency coefficient of all components (domains) of the questionnaire scales in order to analyze the reliability of the quality of life scales. In addition, the correlation analysis assessed the interdependence between the values of individual domains within the scales for assessing the quality of life, while Spearman's rank correlation coefficient - r was calculated between the individual domains of the scales for the objective and subjective quality of life. The results of the research confirm the high reliability of the scales for assessing the subjective quality of life (0.823) in the general population of employees, while the reliability of the scale for assessing the objective quality of life is in accordance with the values of the Cronbach α coefficients in the tests of the objective quality of life in a large number of studies during the initial testing of the questionnaire by the author himself (0.39 vs. 0.49). It was confirmed that the application of a standardized generic questionnaire for quality of life (ComQoL-A5) is a suitable and reliable instrument for future research on quality of life in the general population and for the working population.*

Key words: *quality of life, well-being, ComQoL-A5, working population, City of Niš*

JEL Classification: N30, D60, I31, C31

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1. INTRODUCTION

In the last five decades, the interest in examining the quality of life in various scientific fields, as well as the number of multidisciplinary researches, has been continuously growing (Andrews, 1974; Land & Michalos, 2018). The quality of life construct was originally created in the macroeconomic context in connection with research on economic well-being, which is expressed by indicators of the level of living standards in certain countries and regions and other parameters that are not related to the economy or are indirectly related. Over time, the set of integral variables of the quality of life was constantly changing, so in addition to macroeconomic and statistical ones, the share and importance of social-psychological indicators, which are reflected in the subjective evaluations of respondents through questionnaires and surveys in target groups, progressively grew.

The concept of quality of life has become interdisciplinary and equally important for the fields of economics, sociology and psychology. In addition, a special line of health-related quality of life research is actively being developed in medical research (Pennacchini et al., 2011), with the main goal of preserving and improving the health of the population. The quality of life is increasingly considered the ideal of modern medicine from the biopsychosocial point of view because, in addition to everything else, it enables ethical progress in clinical evaluation methods.

There is no doubt that the introduction of quality of life as a kind of entity humanized medical science, since in its essential approach it considers the patient as a complete person and does not allow the patient's body to be separated from his personality. Sociological and medical directions initially developed relatively independently, and special contributions to their convergence are social psychological ideas that develop in the field of well-being research (Geerling & Diener, 2020). Economists make a clear distinction between well-being, which in their opinion refers to individuals, and quality of life, which they understand in the comparison of well-being among individuals (through social indicators).

Economic models of subjective well-being are similar to models of quality of life to the extent that subjective well-being is related to a number of objective external factors related to a person's life. Other models see well-being as part of quality of life, that is, combining subjective and objective dimensions (Vittersø, 2004), or objective well-being and subjective well-being. Subjective well-being is made up of people's evaluations of their own lives, both cognitive (satisfaction) and emotional (happiness).

An individual's or a community's quality of life depends on two factors: the real circumstances of their existence and what they make of those conditions. The later depends on how those conditions are seen, what is thought and felt about them, what is done, and ultimately what outcomes result from that action. Thus, people's views, ideas, emotions, and behaviors affect their own and other people's quality of life (Michalos, 2017).

The aim of this paper is to evaluate the validity and reliability of the Comprehensive Quality of Life Scale - A5 (ComQoL-A5) on a sample of 761 employees in production and service activities in the City of Niš. Accordingly, the structure of the work consists of three parts. After the introductory discussions, the concept of quality of life and the way to measure it were precisely determined. The second part of the paper is devoted to the applied research methodology, while the third part of the paper presents the results of the research. Concluding considerations are given in the last part of the paper.

2. Quality of Life – Definitions and Measurement

Throughout history, the idea of public happiness has been widely accepted, even though the word quality of life is relatively new. Happiness has long been regarded by philosophers as the ultimate good and the driving force behind human behavior. Eighteenth-century literature was replete with debates about the nature of happiness and the circumstances under which it can be attained. In 1725, Francis Hutcheson established the basis for utilitarian theory by claiming that the optimal course of action is that which results in the greatest happiness for the greatest number of people. The ramifications for the function of the government were generally acknowledged. Political economists turned happiness into their primary focus, believing that it was a quantifiable concept and that governments could be assessed based on how well they were able to generate happiness among the general people (Campbell, 1981).

Although the precise origin of the term quality of life is unknown, McCall (1975) proposed that the phrase's widespread use appears to have begun in 1961 during a speech made by President Lyndon Johnson. The term was formerly restricted to having or not having standard consumer items, and it denoted "the good life". Owning a car, a home, or other possessions was a sign of prosperity and good quality of life. The idea progressively changed and expanded to include achieving one's goals in life, realizing one's needs and desires, and adapting one's surroundings to better handle it. Back then, only those who were in good health were able to enjoy a high standard of life.

The term quality of life is now used in a much wider context, even though it was originally most frequently associated with issues like urban decay and environmental degradation. Barcaccia et al. (2013) indicate that „since now the term "quality of life" lends itself to more than one interpretation and when used, it is not always meaning the same, but is affected by the context in which the QoL consideration takes place" (p. 187). Thus, defining quality of life is one of the primary challenges that must be overcome. This task is further complicated by the concept's widespread application across the number of sometimes unrelated research fields, such as economics, geography, medicine, architecture, philosophy, recreation, transportation, environment etc. Because it represents a multifaceted phenomenon, the definition of the term quality of life and the way it is used depend on the subject and goals of the research itself. Authors from different fields approach the concept of quality of life from the aspect of their narrow interests and research goals, and accordingly, the subject of research also varies (Rejeski, Mihalko, 2001; Farquhar, 1995; Gottwald & Lejsková, 2023; Steel et al., 2019; Salès-Wuillemin et al., 2023).

Some authors, like Moons et al. (2006) indicate that "quality of life often seems to be an umbrella term, covering a variety of concepts, such as functioning, health status, perceptions, life conditions, behaviour, happiness, lifestyle, symptoms, etc." (p. 891).

Quality of life has been defined and assessed scientifically on multiple occasions over the last thirty years. Nevertheless, there is no universally recognized definition or consensus on what constitutes a high quality of life, despite a vast amount of research. Some researchers employ an unbiased definition of quality of life and consider particular cases related to living standards, including physical health, one's own situation (wealth, living conditions, etc.), relationships, work, and other social and economic factors that are similar to quality of life. This methodology stands in opposition to a subjective one that prioritizes cognitive factors when evaluating life quality and considers it to be the same as a person's happiness or satisfaction. The holistic approach is a third strategy that exists in addition to these two

opposing ones. In evaluating quality of life, its proponents use both objective and subjective factors since they believe that the concept is intricate and multifaceted, much like life itself.

In general, quality of life refers to how well human needs are satisfied or how much people or groups feel themselves to be satisfied or unsatisfied in different areas of their lives. Two fundamental approaches to measuring quality of life have been the focus of recent study (Costanza et al., 2008, p. 268). Quantifiable social or economic indicators are one way to measure how well human needs are being met. According to Cummins et al. (2003), the so-called "objective" measurements of quality of life often focus on social, economic, and health variables. Indicators of economic production, life expectancy, literacy rates, and other data that may be obtained without requiring a subjective assessment by the individual are examples of so-called "objective" indicators of quality of life. The UN's Human Development Index is one example of a summary index that can be created by combining or using individual objective indicators. Many distinct instruments have been developed in the healthcare sector as a result of research on health-related quality of life (HRQOL). These instruments are designed to measure HRQOL for particular subgroups of individuals depending on factors including age, condition, and disease status (Etxeberria et al., 2019).

The alternative approach, referred to as "subjective well-being" focuses at self-reported levels of contentment, pleasure, happiness, and similar feelings. More subjective assessment instruments usually concentrate on individual life experience reports that supplement social, economic, and health indicators; examples include the extent to which a perceived need is satisfied and the significance of that "perceived need" to an individual's overall quality of life. Furthermore, subjective measures, in contrast to the majority of objective quality of life measures, usually rely on survey or interview instruments to collect respondents' self-reports of their lived experiences in the form of pleasure, contentment, well-being, or other near-synonyms. However, in reality there is no clear distinction between objective and subjective indicators, due to the fact that that these objective metrics are really proxies for experience determined by the subjective perceptions of decision - makers.

Because of the way it is used, the term quality of life is ambiguous. Armstrong & Caldwell (2004) starting from the importance of the term and its "rhetorical power", in many political discussions they equate it with social, medical and technological progress. What should be emphasized is that publications on quality of life from the medical literature often do not define the concept of quality of life. It is the opinion of many researchers that quality of life cannot be precisely defined and that is why they more often choose to study different aspects and dimensions of quality of life instead of trying to give an explicit definition (Keith, 2001).

The subject of socially oriented quality of life research is the structure and content of groups, communities and societies, while psychologically and medically oriented researchers will consider some of the individual characteristics such as well-being, mental health, functional status, and life activity (Raphael, 1996). There are tendencies of some authors to combine quality of life with other concepts or to use different concepts interchangeably. The most common examples of this are life satisfaction, happiness, well-being, health status and living conditions which are sometimes combined with quality of life.

Confusion also arose in the early 90s, by distinguishing "health-related quality of life" from general "quality of life" (Armstrong & Caldwell, 2004), which were incorrectly often used interchangeably. Quality of life was initially defined by the World Health Organization (WHO) in 1947 as a "state of complete physical, mental, and social well-being, and not merely the absence of disease and infirmity". Five decades later, in 1995, this definition has evolved into an emphasis "individuals' perceptions of their position in life in the context of the

culture and value systems in which they live and in relation to their goals, expectations, standards, and concerns“ (World Health Organization, 2024). That is a comprehensive notion that intricately integrates a person's physical and mental well-being, degree of independence, social connections, individual preferences, and interactions with prominent environmental elements. Though the definition of quality of life has evolved in recent years, this one has remained the most significant and influential (Cai et al., 2021). This definition reflects an account of quality of life that refers to subjective evaluations that are embedded in cultural, social and environmental contexts. As such, quality of life cannot simply be equated with the terms “health state”, “lifestyle”, “life satisfaction”, “mental state” or “well-being”. Rather, it is a multidimensional concept that involves individuals' observations of these and other aspects of life (The WHOQOL Group, 1995).

By examining the most commonly used quality of life indices around the world Hagerty (2001) found that most of them had no theoretical basis, that is, they were not based on a tested conceptual model of quality of life. The author proposes a model of quality of life based on a system-theoretical approach that connects the environment and state policy as an input variable, while the outcomes are components of quality of life (Figure 1).

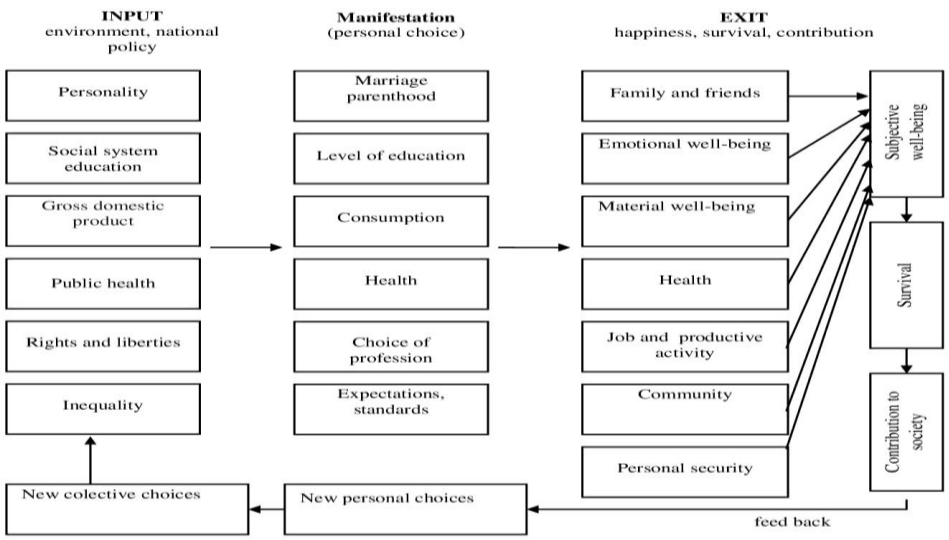

Fig. 1 The quality of life systemic and theoretical model
Source: Hagerty et al., 2001.

The widespread use of economic indicators as a measure of the national quality of life began to shift the focus towards subjective responses to the conditions of the living environment. By approaching social indicators, these studies accepted the concept of happiness, life satisfaction and well-being and tried to measure them at the population level. Alternative hypotheses supported that personal well-being is more related to personality or predisposition than to objective environmental conditions (Felce & Perry, 1995; Giambona et al., 2014; Rapley, 2003). The examples of two different types of social indicators are given in the Table 1.

Table 1 Objective and subjective social indicators

The most frequently used objective social indicators	The most frequently used subjective social indicators
Represent social data independent of individual assessment	Self assessmet and assessment of the situation in society
Life expectancy	A sense of community
Crime rate	Material property
Unimployement rate	A sense of security
Gross domestic product	Happiness
Poverty rate	Life satisfaction
School attendance	Family relations
Number of working hours per week	Job satisfaction
Perinatal mortality rate	Sex life
Suicide rate	Justice and righteousness
	Societal layers
	Hobbies and club/association/political membership

Source: Rapley, 2003.

In addition, it is more productive to think in terms of a larger number of potential indicators of quality of life, which can be assessed from both a subjective and an objective perspective, as well as the relationships between them. This has gained importance in public policy and national trust discussions, which argue that psychological factors – low self-confidence and self-esteem – can contribute to many socio-economic problems (objective factors) (Craig, 2003).

The subjective approach to the quality of life, where personal experiences, or seeing one's own life are the main criteria, is still the most valid for most quality of life researchers (Cummins, 2000). This point of view is based on the ideal or postmodern view that there is no objective "reality" outside of our subjective experience of the world and then the quality of life reflects the subjective values possessed by the individual.

An alternative explanation for the lack of correlation between objective and subjective dimensions of quality of life is that objective living conditions, which vary across capitalist economies, shape individuals' expectations of what is possible and, in turn, subjective evaluations of their lives.

With his approach to subjective and objective quality of life, Cummins (2000) took a step forward in his theory of subjective well-being. By looking at a range of evidence from a wide range of studies, he hypothesized that subjective and objective quality of life are quite independent. Subjective quality of life is "maintained under the influence of homeostatic control", as a matter of survival, and that is why people have developed positive mechanisms, which allow them to maintain a constant level of subjective quality of life in changing objective conditions. Only when the objective quality of life reaches an extremely low level, for example, in the presence of chronic stress and care for severely disabled people in the family or long-term unemployment (Jenaro et al., 2020; Hult et al., 2020; Plemmenos et al., 2023), then this homeostatic control is disturbed and the subjective quality of life "drops low". In such circumstances, the subjective and objective quality of life proved to be mutually dependent, but at the individual level, this process is, however, "under the influence of cultural and individual values that have yet to be systematically investigated" (Cummins, 2000).

3. METHODOLOGY

The Comprehensive Quality of Life Scale (ComQol) is a standardized measurement instrument designed to assess global quality of life by the Australian author Robert A. Cummins, a professor in the Faculty of Psychology at Deakin University in Melbourne. The scale was created in 1991, in three parallel forms intended for researching the quality of life in the general adult population (ComQol-A), in the population of people with intellectual and other cognitive disorders (ComQol-I) and in the adolescent population (ComQol-S). In this research, the fifth edition of the scale for assessing the quality of life from 1997 (ComQol-A5) (Cummins, 1997) is used.

The Comprehensive Quality of Life Scale is a self-report questionnaire, with both an objective and subjective scale. Both components consist of 7 domains: material well-being), health, safety, productivity, intimacy, place in community, emotional well-being. The questionnaire consists of 35 and 21 questions, where each of these seven domains is treated with one question through three sections: current state, importance and satisfaction with each of the domains. Answers graded on a Likert scale were offered in the questionnaire. The scale takes approximately 20 to 30 minutes to administer, depending upon the amount of explanation necessary for the participant to understand the task, the rating scale, and the questions. It covers three dimensions of Quality of Life: Factual (Objective quality of life), Importance (Given by) and Satisfaction (Perceived by) respondents. Accordingly, the ComQol scale is divided into three sections.

The first part of the questionnaire assesses the objective quality of life (OQOL) of the respondents. This section has 21 questions related to information about the respondent's factual standard of living (such as residence, household income, number of visits to the doctor). Most items are scored on a five-point scale, where '5' points indicate the best possible response (such as owning a house, income greater than 100,000 per month, no doctor visits, etc.), and a score of '1' indicates the least favorable response (such as income less than 22,000 per month, more than eight visits to the doctor in the last three months, the existence of a disability that requires personal assistance and care, etc.). Questions 3(b), 5(c), 7(b) and 7(c) are reverse scored.

The second and third sections serve to assess the subjective quality of life (SQOL). The second part consists of seven questions related to the degree of personal importance of each of the seven domains of quality of life, graded on a five-point Likert scale. Possible answers range from “most important” to “unimportant”. Examples of questions are: “How important are the things you own?”, “How important is your health to you”, “How important is your personal happiness”, etc. Answers are scored from '5' to '1', with a higher score indicating greater importance of a certain domain in life.

The third section of the quality of life assessment scale contains questions regarding the respondent's level of satisfaction with each of the seven domains of quality of life on a seven-point Likert scale. The range of assessment values ranges from 1 (worst possible), 2 (very bad), 3 (bad), 4 (neither good nor bad), 5 (good), 6 (very good), 7 (best possible). That is, from “delighted” to “terribly dissatisfied”. Examples of questions in this section are as follows: “How satisfied are you with the things you own?”, “How satisfied are you with your health?”, “How satisfied are you with your own happiness?”. Possible scores range from 7 to 1. Therefore, the answer “delighted” is scored with 7 and “terribly dissatisfied” with 1 point.

In order to calculate the subjective quality of life, it is necessary to multiply the score of each domain from the second section by the corresponding one from the third section. The range of each domain for SQOL is from -20 to +20 (Cummins, 1997). Thus, the formula applies to the subjective quality of life:

$$SQOL = \Sigma(Domain\ Satisfaction\ x\ Domain\ Importance)\ or\ \Sigma(ZxV) \quad (1)$$

For the purpose of clearer presentation, explanation and comparison of the results, and based on recommendations from international literature, the score values were changed to the form of percentage of scale maximum (%SM) obtained on that scale according to the formulas from the instructions of the author of the questionnaire (Cummins, 1997).

The instrument has been tested in over 17 large studies with different respondents including students, university employees, different ethnic groups (immigrants), elderly and rural population. The psychometric characteristics of the ComQol-A5 questionnaire show that the test-retest reliability for the seven domains is 0.6 for importance and 0.36 for satisfaction. Internal consistency (Cronbach α) is in the range of 0.54 to 0.64. Studies testing the validity of the questionnaire, by the author himself, in the period from 1972 to 1994 on a large sample of respondents in Western countries, state that the "gold standard" for SQOL is 75 + 2.5%SM, while the overall satisfaction with life is in the range of 70 - 80%SM (Cummins, 1995, 1998, 1999). Recent research indicates that the normative ranking of subjective quality of life is in the range of 50-100%SM Cummins, 2000). The fact that SQOL is less than 50%SM means a disturbance of subjective life homeostasis (Cummins, 2000; Mellor et al., 2003). Relations between subjective and objective quality of life in terms of their dependence, that is, relative independence and temporal variability, are today the subject of numerous analyses, discussions and critical reviews among researchers (Forward, 2003; Galloway et al., 2005; McCrea et al. 2006; Costanza et al., 2008).

In this paper, research was conducted on a sample of 761 employees in production and service activities in the City of Niš in 2019, with the application of a standardized generic questionnaire for quality of life (ComQoL-A5). The reliability analysis of the quality of life scales was performed by calculating the Cronbach α coefficient of internal consistency of all components (domains) of the scales. The coefficient value of 0.60 was determined as the lower limit of acceptable scale reliability, and the coefficient value of 0.70 as the lower limit of high reliability. By calculating the value of the coefficient when excluding certain domains from the scale, the contribution of those domains to the consistency of the scale was assessed. In the case when the value of the coefficient increases when a certain domain is excluded, it is concluded that that domain does not contribute to the consistency of the scale. Correlation analysis was used to assess the interdependence between the values of individual domains within the scales for assessing the quality of life, while Spearman's rank correlation coefficient was calculated between the individual domains of the scales for objective and subjective quality of life.

4. Research Results and Discussions

A person's health and well-being cannot be considered without including many factors in his immediate environment. The assumption of a constant, dynamic and reciprocal relationship between man and the external physical and social environment is the basis of the interactionist approach (Bronfenbrener, 1997). He distinguishes four systems of sustainability

that interpenetrate each other. The microsystem represents a complex of relationships between a person and his immediate environment. This often refers to family, home, school, company, division of activities and roles. The mesosystem includes different parts of the microsystem in different time periods, i.e. stages of human life. These two systems are deeply intertwined and form the basis of the social support system. The most important parts of the social system include family members, close friends, colleagues, relatives and neighbors. The exosystem includes wider social institutions, such as health services, school system, social welfare institutions etc., which become important in the moment when the need for them arises in a person's life and which from then on become very important for the quality of life and overall well-being of the person. The macrosystem consists of forms of culture that are the bearers of the value system of society and the accepted ideology. Macrosystems are usually explicitly expressed through laws and rules. All the mentioned systems together contribute to the quality of life.

Table 2 The assessment of the reliability of the scale for assessing the objective quality of life

Domain	α when the domain except	Difference
Scale Total α=0.492		
Material well-being	0.500	0.008
Health	0.517	0.025
Productivity	0.543	0.051
Intimacy	0.371	-0.121
Safety	0.307	-0.185
Place in Community	0.486	-0.006
Emotion well-being	0.357	-0.135

Source: Author's own calculations

The value of the Cronbach α coefficient (α=0.492) indicates a statistically insufficient reliability of the scale for assessing the objective quality of life because the internal consistency of all domains of the scale is weak (the limit of acceptable reliability is 0.6). Excluding the domains of material well-being, health and productivity would lead to an increase in the value of the coefficient α, which indicates that these domains violate the internal consistency of the scale, that is, they are not correlated, both with each other and with the other domains of the scale.

Also, according to the findings Boyle (1991) and Cortina (1993) strongly condemn the 'classical' psychometric belief that high alphas are better in terms of intra-scale reliability. Boyle quotes Hattie (1985) as "alpha can be high even if there is no general factor, since (1) it is influenced by the number of items and parallel repetitions of items, (2) it increases as the number of factors pertaining to each item increases, and (3) it decreases moderately as the item communalities increase" (pp. 157-158). He concludes that there is an optimum range of internal consistency/item homogeneity if significant item redundancy is to be avoided. According to Kline (1979, p. 3), with item intercorrelations lower than about 0.3 "each part of the test must be measuring something different... A higher correlation than (0.7), on the other hand, suggests that the test is too narrow and too specific... If one constructs items that are virtually paraphrases of each other, the results would be high internal consistency and very low validity". Kline (1979) also states that "maximum validity... is obtained where test items do not all correlate with each other, but where each correlates positively with the criterion. Such a test would have only low internal - consistency reliability" (p. 3).

For the purpose of evaluating ComQol, sub-scale alphas will be sought in the range 0.3 to 0.7.

Table 3 Correlation between the values of individual domains of the scale for assessing the objective quality of life

Domain	Parameter	Health	Productivity	Intimacy	Safety	Place in Community	Emotion well-being
Material well-being	r	0.038	0.052	0.017	0.136	-0.009	0.034
	p	0.552	0.410	0.792	0.030	0.886	0.595
Health	r		-0.025	0.005	0.121	0.009	0.148
	p		0.695	0.933	0.056	0.889	0.019
Productivity	r			0.045	-0.035	-0.081	-0.002
	p			0.475	0.577	0.200	0.979
Intimacy	r				0.387	0.201	0.319
	p				<0.001	0.001	<0.001
Safety	r					0.252	0.464
	p					<0.001	<0.001
Place in Community	r						0.084
	p						0.184

Source: Author's own calculations

Correlation analysis shows that there is no significant correlation between the score values of all domains of the scale for assessing the objective quality of life. The score values for the productivity domain do not show a significant correlation with the score values of any of the other domains. The score values for the material well-being domain are significantly correlated only with the score values for the security domain ($r=0.136$; $p<0.05$), and the score values for the health domain are significantly correlated only with the score values for the emotional well-being domain ($r= 0.148$; $p<0.05$).

Table 4 Assessment of the reliability of the scale for assessing the subjective quality of life

Domain	α when the domain except	Difference
Scale Total α=0.823		
Material well-being	0.811	-0.012
Health	0.801	-0.022
Productivity	0.789	-0.034
Intimacy	0.819	-0.004
Safety	0.782	-0.041
Place in Community	0.805	-0.018
Emotion well-being	0.783	-0.040

Source: Author's own calculations

The scale for assessing the subjective quality of life shows very high reliability (Cronbach $\alpha = 0.823$), and each of the domains contributes to the internal consistency of the scale.

Table 5 Correlation between the values of individual domains of the scale for assessing the subjective quality of life

Domain	Parameter	Health	Productivity	Intimacy	Safety	Place in Community	Emotion well-being
Material well-being	r	0.432	0.416	0.221	0.336	0.323	0.407
	p	<0.001	<0.001	0.001	<0.001	<0.001	<0.001
Health	r		0.419	0.415	0.499	0.366	0.531
	p		<0.001	<0.001	<0.001	<0.001	<0.001
Productivity	r			0.315	0.461	0.304	0.595
	p			<0.001	<0.001	<0.001	<0.001
Intimacy	r				0.572	0.375	0.349
	p				<0.001	<0.001	<0.001
Safety	r					0.595	0.585
	p					<0.001	<0.001
Place in Community	r						0.489
	p						<0.001

Source: Author's own calculations

The score values of all domains of the scale for assessing the subjective quality of life are in a statistically significant correlation, and the error level of this statement is less than 0.1% ($p<0.001$).

Table 6 Correlation between the score values of the scales for assessing the objective and subjective quality of life, as well as their domains

Domain	r	p
Scale Total	0.657	<0.001
Material well-being	0.281	<0.001
Health	0.443	<0.001
Productivity	0.124	0.053
Intimacy	0.336	<0.001
Safety	0.466	<0.001
Place in Community	0.176	0.006
Emotion well-being	0.474	<0.001

Source: Author's own calculations

There is a highly statistically significant correlation ($r=0.657$; $p<0.001$) between the scores of the scales for assessing the objective and subjective quality of life. Significant interdependence was also confirmed between all scale domains, except for productivity.

Objective quality of life represents quantitative indicators for assessing what people have (health, education, income, marital status). Thus, the objective quality of life is the fulfillment of social and cultural norms for material goods, social status and physical well-being.

As the value of the Cronbach α coefficient (α=0.492) indicates the insufficient reliability of the scale for assessing the objective quality of life because the internal consistency of all domains of the scale is weak compared to the limit of acceptable reliability, this suggests the necessity of analysis and the greater importance of certain domains within the objective quality of life in relation to his total score. In this sense, the "high" objective quality of life of individual employees can be interpreted by the largest share of the average score of material well-being (income), which is statistically significantly higher in some groups and professions. Also, the average scores of self-rated health and productivity, if their values are statistically significantly different, can have an impact on the objective quality of life in the examined group of employees. In other words, a good objective quality of life is most contributed by the possession of material goods and rewards expressed through the associated income due to practicing a certain profession.

However, real health, measured on the basis of diagnosed diseases and health disorders, the need for treatment and the use of drugs, significantly reduces the objective quality of life of individual examined workers. The productivity of employees followed by indicators such as the number of hours of paid work, child care or training, fulfillment of free time, as well as the time spent or not spent in front of television screens, can also be of importance for the inconsistency of the scale for assessing the objective quality of life, considering to the different lifestyles, interests, opportunities and age of the employees in the examined group. It is interesting to point out that no correlation was established between productivity and material well-being, and that productivity does not show a significant correlation with any of the other domains of quality of life.

Correlation analysis shows that there is no significant correlation between the domain scores of the scale for assessing the objective quality of life, which is not in agreement with the claims of researchers in the field of quality of life and the author of the questionnaire (Cummins, 2000; McCrea et al., 2006). Certain correlations still exist thus a significant correlation has been established between material well-being and security, which are traditionally valid norms. Close relationships with family and friends are related to security, sense of community and emotional well-being, and security is related to sense of community and emotional well-being. By analyzing the domain of belonging to the community, we mean the local community within the place of residence, relations with neighbors and friends outside the workplace, socially recognized unpaid roles within associations, clubs or parties, spiritual activities, following events of importance for a certain population (live sports events), so-called working on oneself and respecting opinions or seeking advice from people from the immediate environment, Domain health is significantly correlated only with emotional well-being, this can be interpreted as the greatest objective impact of health on life energy, the activities we want to do and the possibility of realizing desires and motives.

5. CONCLUSIONS

Although we only have one life, the quality of it varies depending on our perspective. A person may appear wealthy from one angle while being quite impoverished from another. Thus, it may be more correct to refer to the entire field of study on "quality of life" studies as "qualities of life" studies. Either way, the word quality of life is generally interpreted to mean having a good life overall.

Because of its complex nature, it is not surprising that there is no universally accepted definition or standard method of assessment for the quality of life construct. Notably, a lot of quality of life instruments have been created for quite specific subsets of the population. This is especially true of scales designed to track medical illnesses or treatments. It follows that the quality of life of these groups cannot be normatively compared to the broader population, which is a significant constraint. Even the more broadly designed scales, nonetheless, are not applicable to every segment of the population.

The Comprehensive Quality of Life Scale (ComQol) was created in order to overcome these shortcomings. There are several alternative versions of this scale that can be used for every population subgroup. In this study, we use ComQol – A, that is intended for usage with adults in general, especially ComQol – A5 questionnaire consisting of 35 items across seven life domains: material well-being, health, productivity, intimacy, safety, place in society, and emotional well-being, each of which is rated in terms of perceived satisfaction and how important it is to the individual. The survey was conducted in 2019 on a sample of 761 employees in production and service activities in the city of Niš. The results of the research show that:

1. The value of the Cronbach α coefficient (0.492) indicates insufficient reliability of the scale for assessing the objective quality of life, because the internal consistency of all domains of the scale is weak (the limit of statistically acceptable reliability is 0.6), but is within the acceptable range of internal consistency reliability according to the author Com Qol A5.

2. The correlation analysis confirmed that there is no significant correlation between the score values of all domains of the scale for assessing the objective quality of life, which is not in agreement with the claims of researchers in the field of quality of life and the author of the questionnaire. However, the analysis of individual domains within the objective quality of life in relation to its overall score shows that the following contribute to a good objective quality of life: (a) a high share of the average score of material well-being (income) in some groups and professions, i.e. the possession of material goods and rewards expressed through related income due to practicing a certain profession; as well as (b) high average scores of self-rated health and productivity. It is important to point out that not only has research not confirmed the correlation between productivity and material well-being, but productivity does not show a significant correlation with any of the other domains of quality of life. However, a significant correlation was established between material well-being and security, as well as the domain of health with emotional well-being, which is a consequence of the objective impact of health on life energy, human activities and the possibility of realizing desires and motives.

3. The scale for assessing the subjective quality of life shows very high reliability (Cronbach α=0.823), and each of the domains contributes to the internal consistency of the scale. Actually, the score values of all domains of the scale for assessing the subjective quality

of life are in a statistically significant correlation, and the error level of this statement is less than 0.1% ($p<0.001$).

It could be concluded that the questionnaire we used (ComQolA5) represents a suitable, reliable and interpretative instrument in researching the quality of life in the general population and for the working population. Precisely for this reason, our future research will be directed towards the validation of other forms, namely ComQol - I, intended for use by those who suffer from a cognitive disorder or intellectual disabilities, and ComQol - S, intended for use with school- age teenagers (ages 11 to 18) on the population in the Republic of Serbia, with the basic goal of determining the quality of life of members of different social groups. Since the research was carried out in the year before the outbreak of the corona virus COVID-19 pandemic, and bearing in mind that the pandemic crisis left numerous economic, psychological, social and other consequences for the population, our research efforts in the coming period will be directed towards comparing the quality of life using this questionnaire in the period before and after the crisis caused by this non-economic factor.

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STUDIJA VALIDACIJE SUBJEKTIVNOG I OBJEKTIVNOG KVALITETA ŽIVOTA ZAPOSLENIH: SLUČAJ REPUBLIKE SRBIJE

U ovom radu izvršena je evaluacija pouzdanosti i validnosti Comprehensive Quality of Life Scale-A5 (Sveobuhvatne skale kvaliteta života, COM QOL-A5) na uzorku od 761 zaposlenog u proizvodnim i uslužnim delatnostima u Gradu Nišu. Istraživanje je izvršeno korišćenjem Cronbach α koeficijenta unutrašnje konzistentnosti svih komponenti (domena) skala upitnika u cilju analize pouzdanosti skala za kvaliteta životal. Osim toga, primenom korelacione analize procenjivana je međuzavisnost između vrednosti pojedinih domena unutar skala za procenu kvaliteta života, dok je između pojedinih domena skala za objektivni i subjektivni kvalitet života izračunavan Spirmanov koeficijent rang korelacije - r. Rezultati istraživanja potvrđuju visoku pouzdanost skala za procenu subjektivnog kvaliteta života (0,823) u opštoj populaciji zaposlenih, dok je pozdanost skale za procenu objektivnog kvaliteta života u skladu sa vrednostima Cronbach α koeficijenata u ispitivanjima objektivnog kvaliteta života na velikom broju studija kod prvobitnog testiranja upitnika od strane samog autora (0.39 vs. 0,49). Potvrđeno je da primena standardizovanog generičkog upitnika za kvalitet života (ComQoL-A5) predstavlja pogodan i pouzdan instrument za buduća istraživanja kvaliteta života u opštoj populaciji i za radno aktivno stanovništvo.

Ključne reči: *kvalitet života, blagostanje, ComQoL-A5, radno sposobno stanovništvo, Grad Niš*