

HEALTH-RELATED QUALITY OF LIFE OF ECONOMICS STUDENTS

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Abstract: *The article aims to present the results of research on the quality of life of students at the University of Economics in Katowice (Poland) using the WHOQOL-BREF questionnaire, which consists of 26 questions and analyzes four basic domains of quality of life: physical, psychological, social relationships, environmental functioning, as well as overall quality of life and self-assessment of health. The study was conducted in 2023 on a sample of 123 students. Students rate their lives and health positively. None of the students were completely dissatisfied with their life and health. Statistically significant differences can be observed in the assessment results of the analyzed domains: physical, psychological, social, and environmental. The physical domain was rated the lowest, while the environmental domain was rated the highest by students. The analyzed domains are correlated with each other in a moderate, statistically significant way. Based on the research conducted, no statistically significant differences in the assessment of domains can be found, taking into account the division of students by gender, place of residence, and current health condition.*

Key words: *quality of life, WHOQOL-BREF, students, well-being*

JEL codes: *I31, I12*

1. Introduction

The concept of quality of life, from the time of Aristotle through to the present, has been constantly changing. It has moved from the philosophers' debates into concrete academic and policy discussions, measurement, and assessment. Nowadays, quality of life is the subject of research in many scientific disciplines, including economics, sociology, geography, psychology, and medicine, indicating the interdisciplinary nature of this category. This means that various aspects of human life such as; material comfort, personal safety, health, relationships, participation in public affairs, socializing, leisure, etc., are taken into account in this multidimensional concept. It raises challenges in defining the concept itself and in measuring it, but at the same time, it increases interest in research on the quality of life and its assessment.

Demographic changes, scientific and technological progress, and increased awareness of pandemics, climate change, conflicts, and health problems have turned previously held notions of "the good life". On the other hand, increased living standards often go hand in hand with a greater concern for quality of life as people begin to place greater emphasis on comfort, satisfaction, and fulfillment. Individuals' life experiences, including level of life satisfaction, material well-being, social relationships, and health status, may also influence their interest in quality of life.

These changes lead to the following questions: how are perceptions of quality of life-changing? what is important for young people? How do they evaluate particular domains of their lives?

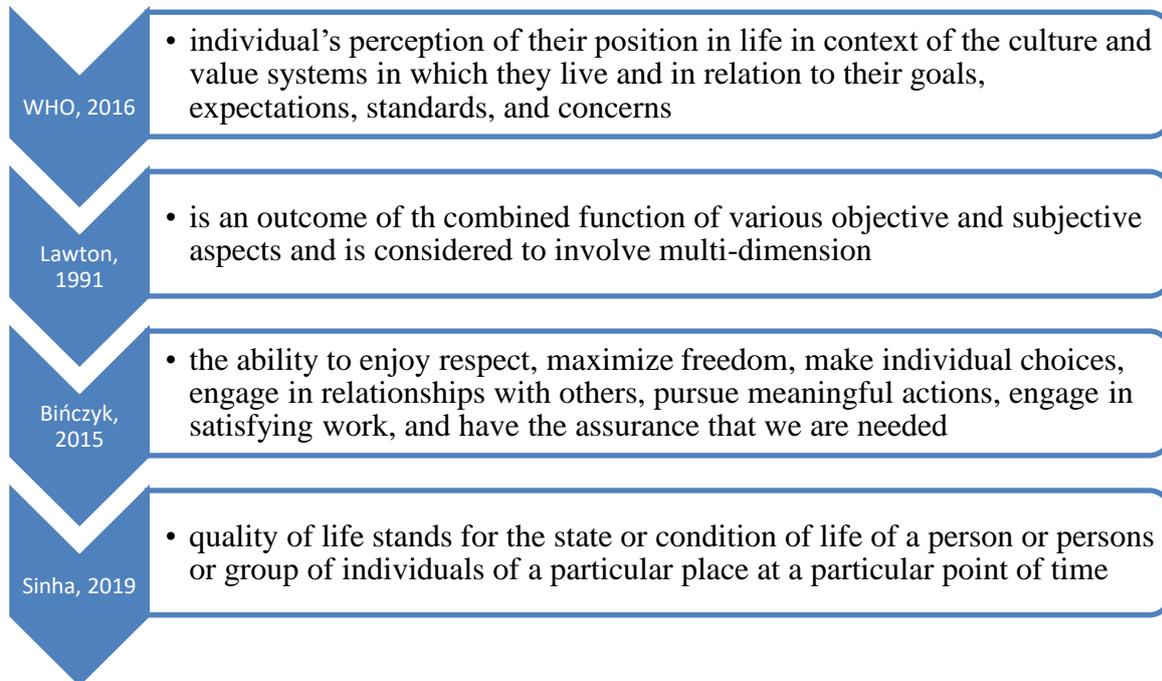
The article aims to present the results of research on the quality of life of students at the University of Economics in Katowice (Poland) using the WHOQOL-BREF questionnaire, which consists of 26 questions and analyzes four basic domains of quality of life: physical, psychological, social relations, environmental functioning, as well as overall quality of life and self-assessment of health.

2. Quality of life – definitions and measurement

Quality of life is an interdisciplinary, multidimensional concept that is difficult to define. However, all definitions can be categorized into three types: global definitions such as happiness/unhappiness, definitions relating to the components and dimensions of quality of life, and definitions with a pragmatic approach, resulting from the researcher's interests (Farquhar,

1995, Hunt, 1997, Vennhoven 2000, Trzebiatowski, 2011). The examples of such definitions are presented in Fig. 1.

Fig. 2 Definitions of the quality of life



Source: own

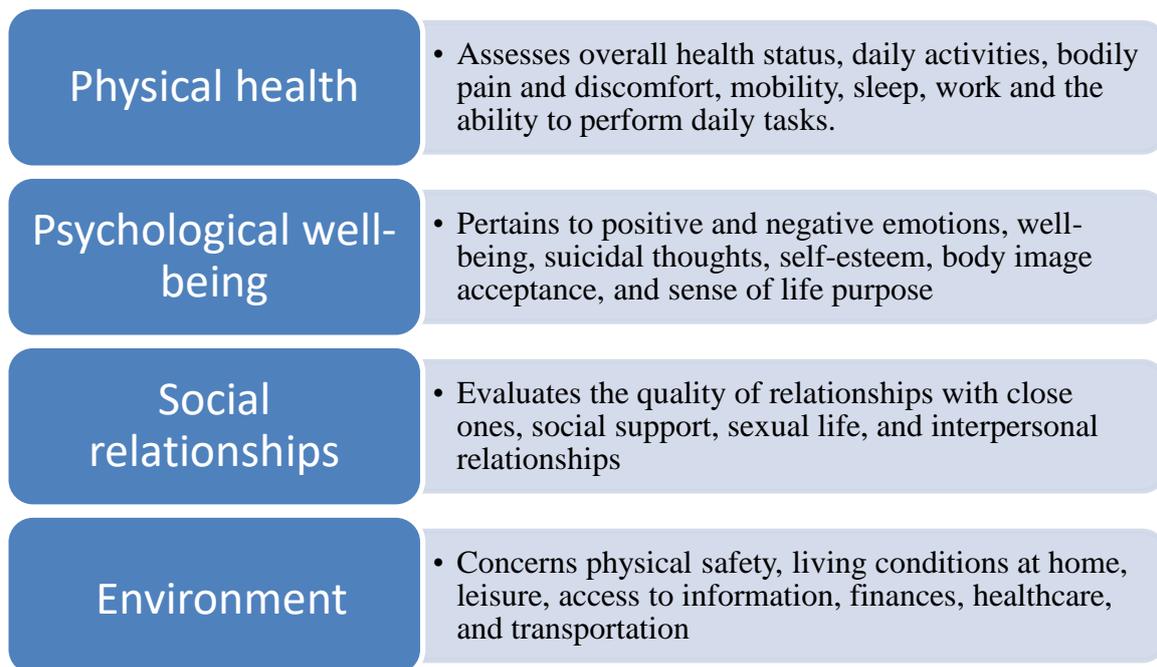
All of them represent one of the key approaches to research on quality of life: objective – focusing on people's material conditions and subjective – exploring an individual's life experience and perception of happiness (Brcaccia et al., 2013, Campbell, 1976, Diener et al. 1985). Most of the recent research carried out since the 1970s, combines both approaches, however, they are based on different methodologies and use different indicators. Among the organizations addressing this issue on the international level are the OECD (*Better Life Index*), UN (*Quality of Life Initiative*) (www1), EU and its agencies such as Eurofound (*European Quality of Life Surveys*), WHO (*World Health Organization Quality of Life*).

3. Quality of life by World Health Organization

One of the most popular methods available for measuring quality of life is the WHOQOL (World Health Organization Quality of Life), developed by the World Health Organization (1996). It allows cross-cultural comparisons and is accessible in over 40 languages, in numerous countries such as the United States, the Netherlands, Poland, Bangladesh, Thailand, India,

Australia, Japan, Croatia, Zimbabwe, and others. It includes 100 detailed questions across domains and sub-domains of quality of life. More recently, the WHOQOL-BREF, an abbreviated 26-item assessment has been developed (World Health Organization, 2002). It is a self-report Likert-type scale including 26 questions that evaluate quality of life (QOL) across four domains: physical health, psychological well-being, social relationships, and environment., as shown in Fig. 2.

Fig. 2 Domains of quality of life



Source: own

QOL is defined as individuals' subjective perception of their life situation within the cultural and value systems of their society, considering their goals, expectations, standards, and concerns. Factors such as age, gender, rural or urban residency, and health status can influence QOL in these domains. Research conducted among students (e.g. Fidecki et al., 2018, Kotarski, 2023, Malibary et al., 2019, Njah et al., 2023) present their assessment of QOL.

4. Methodology and Data

The study was conducted in 2023 (from March to May) on a sample of 123 third-year students of the University of Economics in Katowice in Poland. There were no missing data.

The WHO-BREF questionnaire contains 26 items (questions). Items 1 and 2 assess an individual's perception of QOL and health, respectively. The remaining items are categorized

under physical (7 items), psychological (6 items), social (3 items), and environmental (8 items) domains. WHOQOL-BREF scores in specific domains were transformed to a 0-100 scale using a transformation formula (World Health Organization, 1996). Normality assumptions were checked using the Shapiro-Wilk test. The internal consistency of QOL scores was assessed using Cronbach's alpha. Due to the data not following the normal distribution, the differences between QOL domains were checked using the Kruskal-Wallis test, and the correlation between domains was checked using the Spearman coefficient. A comparison of WHOQOL-BREF domain scores based on the characteristics of students was performed using the Mann-Whitney U test. All tests were two-sided, and p values equal to or less than 0.05 were considered statistically significant. SPSS version 29.0 was used for statistical analysis and graphs.

5. Results and Discussion

Most of the surveyed students were women (56.1%). In the study group, there were definitely more inhabitants of urban areas than rural ones (80.5% and 19.5%, respectively). A small proportion of students (17.9%) stated that they were sick at the time of the survey (Tab. 1).

Tab. 1 Characteristics of students (N=123)

Variables	n (%)
Gender	
Female	69 (56.1)
Male	54 (43.9)
Place of residence	
Urban	99 (80.5)
Rural	24 (19.5)
Illness	
No	101 (82.1)
Yes	22 (17.9)

The first two questions in the WHOQOL-BREF questionnaire, i.e. "How would you rate your quality of life?" and "How satisfied are you with your health?", assessed students' perceptions about their QOL and health, respectively (Fig. 3 and Fig. 4). The students assess their life higher than their health (average scores 3.85 and 3.52, respectively). None of the students assessed their quality of life as "very poor" and none of the students stated that they were very dissatisfied with their health. Most students rated their quality of life as good

(60.98%) and their health as satisfactory (46.34%). It should be noted that every fifth student rated their quality of life as poor (20.33%).

Fig. 3 Students' satisfaction with their quality of life

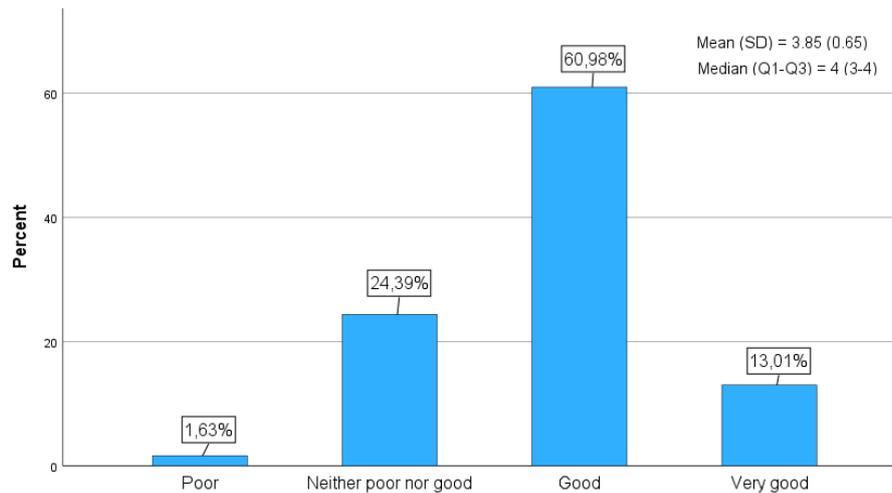
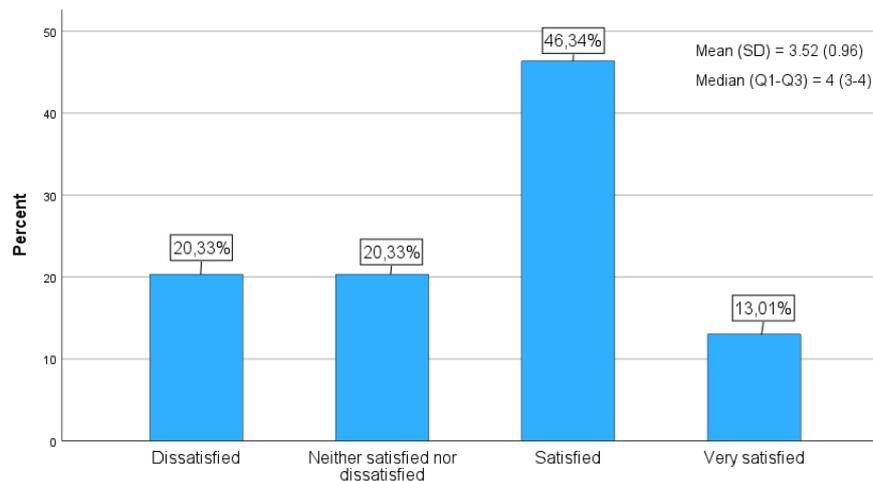


Fig. 4 Students' satisfaction with their health



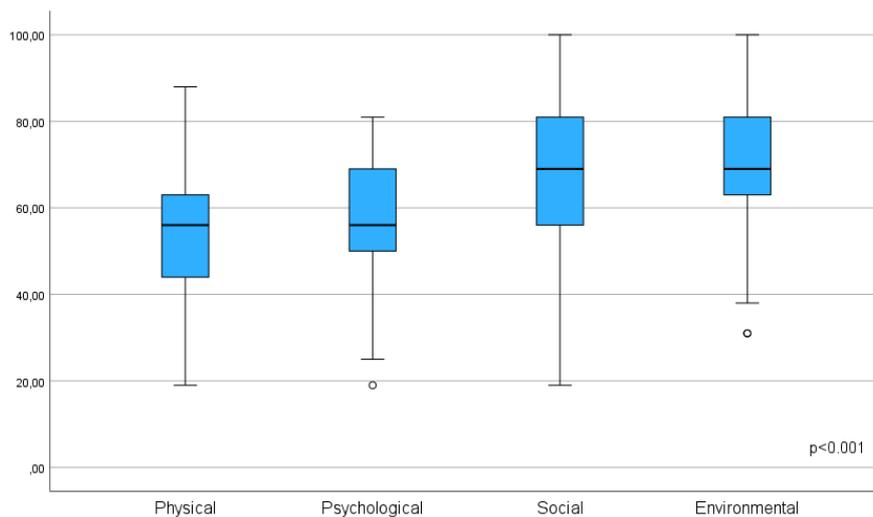
The mean score with standard deviation (SD) and median scores ranged from the first quartile to the third quartile (Q1-Q3) are shown in Tab. 2. The physical and psychological domains are rated lower than social and environmental domains. The greatest diversity of results is for the social domain. The data did not follow the normal distribution, therefore comparison of the domain scores was performed using a nonparametric test. Based on the Kruskal-Wallis test, the differences between domain scores were statistically significant (Fig. 5). The values achieved by Cronbach's alpha (Tab. 2) are between 0.628 and 0.882. The obtained results are considered satisfactory, but the results for physical and social domains

should be treated with caution (Cronbach's alpha values lower than 0.7). The lowest value of Cronbach's alpha in the social domain was expected because it was determined based on three items only.

Tab. 2 WHOQOL-BREF domain scores

Domain	Mean (SD)	Median (Q1- Q3)	Cronbach's alpha	Number of items
Physical	52.43 (12.44)	56 (44-63)	0.648	7
Psychological	57.06 (13.86)	56 (50-69)	0.830	6
Social	66.40 (19.75)	69 (56-81)	0.628	3
Environmental	70.54 (13.37)	69 (63-81)	0.744	8
Overall	61.61 (10.99)	63 (53-69)	0.882	26

Fig. 5 Comparison of WHOQOL-BREF domain scores



Note: The p value was determined by the Kruskal-Wallis test

Based on the Spearman's coefficient, the correlation between WHOQOL-BREF domains was assessed (Tab. 3). There was a significant positive moderate correlation between the domains, with the highest coefficient value for the physical and psychological domains (0.459), and the lowest coefficient value for the social and environmental domains (0.315).

The four QOL domain scores were compared across categories of different characteristics of students (Tab. 4). The QOL scores were similar among gender, place of residence, and illness categories ($p > 0.05$). The changing of significance level (from 0.05 to 0.1) would produce different results in environmental (for gender variable) and psychological (for illness variable) domains.

Tab. 3 Spearman correlation coefficients between WHOQOL-BREF domains

Domain	Physical	Psychological	Social	Environmental
Physical	1.000	0.459**	0.317**	0.366**
Psychological	0.459**	1.000	0.388**	0.422**
Social	0.317**	0.388**	1.000	0.315**
Environmental	0.366**	0.422**	0.315**	1.000

Note: ** $p < 0.001$

Source: own

Tab. 4 Comparison of WHOQOL-BREF domain scores based on characteristics of students

Variables	Physical	Psychological	Social	Environmental
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)
	Median (Q1- Q3)	Median (Q1- Q3)	Median (Q1- Q3)	Median (Q1- Q3)
Gender				
Female	53.25 (12.15) 56 (44-63)	57.09 (14.68) 63 (44-69)	68.46 (19.84) 69 (56-81)	68.28 (12.49) 69 (63-75)
Male	51.39 (12.86) 50 (44-63)	57.02 (12.88) 56 (50-69)	63.76 (19.50) 69 (50-81)	73.43 (14.02) 75 (63-83)
p value	0.438	0.786	0.222	0.055
Place of residence				
Urban	52.21 (13.14) 56 (44-63)	57.55 (13.78) 56 (50-69)	65.88 (20.30) 69 (50-81)	71.20 (13.15) 69 (63-81)
Rural	53.33 (9.24) 56 (44-63)	55.04 (14.34) 56 (44-69)	68.54 (17.53) 69 (69-80)	67.83 (14.23) 69 (63-80)
p value	0.751	0.526	0.604	0.465
Illness				
No	52.66 (11.71) 56 (44-63)	58.06 (13.62) 56 (50-69)	66.46 (20.32) 69 (53-81)	71.43 (13.19) 69 (63-81)
Yes	51.36 (15.65) 53 (44-63)	52.45 (14.36) 56 (43-63)	66.14 (17.34) 69 (55-81)	66.41 (13.76) 66 (63-75)
p value	0.952	0.070	0.826	0.104

Note: The p value was determined by the Mann-Whitney U test

The results of the presented study are in line with the results found by Malibary et al. (2019). According to their study among medical students in Saudi Arabia, self-reported QOL

mean score was higher than satisfaction with health (average score equal to 3.99 and 3.66, respectively). The environmental domain had the highest score (average score equal to 67.81) and the physical health had the lowest score (46.94). They also showed that there are no statistically significant difference between males and females in all domains. Njah et al. (2023), based on analysis among medical students in Tunisia, also found that the physical domain was rated the lowest and the environmental domain was rated the highest. The results of the analysis of health-related QOL among nursing students of the Medical University of Lublin (Poland) presented by Fidecki et al. (2018) also show that students rate higher their overall QOL than their health (average equal to 3.98 and 3.73, respectively). Interestingly, nursing students rate the physical domain the highest and the psychological domain the lowest. The results obtained by Fidecki et al. therefore differ from those presented by other authors. Based on the results of a study on the QOL of students of the University of Rzeszów (Poland) presented by Kotarski (2023), it can be concluded that students rate the overall QOL higher than their health condition (in 2022, the average is equal to 3.67 and 3.52, respectively). In the study, gender did not statistically significantly differentiate any of the four domains of the QOL.

The obtained results should be treated with caution because one of the limitations of the study is the low value of Cronbach's alpha in two domains. In addition, comparisons between groups distinguished by place of residence and disease should also be treated with caution due to large disproportions in group sizes. An undoubted advantage of the study is the ability to compare the results with studies by other authors, which was facilitated by the use of a standardized questionnaire created by WHO.

6. Conclusions

Students of the University of Economics in Katowice rate their lives and health positively. None of the students were completely dissatisfied with their life and health. Statistically significant differences can be observed in the assessment results of the analyzed domains: physical, psychological, social, and environmental. The physical domain was rated the lowest, while the environmental domain was rated the highest by students. The analyzed domains are correlated with each other in a moderate, statistically significant way.

Based on the research conducted, no statistically significant differences in the assessment of domains can be found, taking into account the division of students by gender, place of residence, and current health condition. Reducing the requirements for the significance level (moving from 0.05 to 0.1) would only show the existence of statistically significant differences

between women and men in the case of the environmental domain and between sick and healthy students in the case of the psychological domain.

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