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Quality of Life Indicators of University Students in Hungary

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Authors' contribution:
A) conception and design of the study
B) acquisition of data
C) analysis and interpretation of data
D) manuscript preparation
E) obtaining funding

ABSTRACT

Quality of life is a new research field in the postmodern world. Results show that there are several factors beyond the material world which have an impact on our happiness and which can be influenced and developed by us. To transfer the knowledge that can help improve quality of life requires authentic channels. One of these channels could be the stratum of educated intellectuals as an influential group of society, but they are authentic only if their quality of life is really better than non-qualified population's quality of life. We investigated this issue in Hungary. On the basis of empirical research, we compared university students' quality of life indicators with those of common people of similar ages. The objective of this paper is to present the relevant results of this research, which show that a) the examined indicators of quality of life are not more favorable with university students than the same indicators with the non-student population; b) the quality of life indicators of female university students are worse in some respects than those of non-student women; c) the impact of some psychological factors is stronger with university students than with common persons. The major conclusion of this paper is that an appropriate intervention is needed in health education programs at universities in order to contribute to the improvement of students' quality of life.

KEYWORDS quality of life research, health consciousness, higher education

Introduction

It is a well-known fact that the achievements of civilization in the 20th century do not always serve our welfare. There are several factors beyond the material world that have an impact on our happiness. The postmodern world needs to identify these non-material factors, as they provide a basis for our quality of life. However, researchers in different disciplines have investigated this topic independently from each other for a long time. Sociology approached the problems related to quality of life through studies in connection with social stratification; psychology focused on the human mind and its power to improve the quality of one's life; the medical sciences intended to justify the so-called theory of objective health status. In order to change this voluntary isolation of various disciplines, Kopp and her research team made a successful attempt at examining quality of life in an integrated way from the perspective of behavioral sciences (Kopp & Kovacs, 2006). The adaptation of their experiences made it possible to study students' quality of life in a complex way at Pannon University, a Hungarian university of great size.

We found it important to find the means with the help of which students' quality of life could be improved, since we were aware of the fact that, as educated intellectuals, they would comprise an influential group of society, and their way of life would be a pattern to be followed. First, we made a pilot study. This was followed by more complex research meant to reveal students' quality of life in connection with their health status. The results would be implemented into the program of health education at the university. Our research was supported by the Institute of Physical Education and Sport at Pannon University.

Objectives and hypotheses

Our starting point was that the intellectuals could set a good example only if their quality of life was better than the non-qualified population's quality of life, and this situation should be rooted in their student years. We therefore conducted empirical research with the aim of comparing major quality of life indicators of university students with those of common people of similar ages. The objective of this paper is to present the relevant results of that investigation.

We intend to give answers to the following questions:

- Are there any differences between the populations of university students and non-students of similar ages regarding selected quality of life indicators? If yes, in which areas and to what extent?
- Are there significant gender differences in this field?
- Does the structure of these indicators show similarities or differences between the two groups?
- What is the nature of the decisive factors influencing the students' quality of life?

Based on a pilot study, we formulated the following hypotheses at the beginning of our research:

- There are no significant differences between the students' and common people's quality of life indicators,
- Gender differences occur less frequently between male and female students than between non-student men and women of similar ages,
- Psychological factors play a more decisive role with students than with common young people of similar ages.

Methods

We considered all university students enrolled at Pannon University in the academic year 2008-2009 as the total population of the research (n = 6210). We selected the sample randomly at the four faculties of the university (n = 488). As 9 questionnaires were not suitable for evaluation altogether 479 subjects were studied. The sample is representative concerning the number of students and the gender distribution at each faculty (Table 1). The ages of the students both in the total population and the sample is homogeneous; it consists of young adults aged between 18 and 32 years. We defined the number of respondents in each category as high as 25, as it is generally recommended in comparative analyses (Falus & Olle, 2008).

Table 1. Distribution of the total population (n=6210) and the sample (n=479) by faculty and gender

	Faculty of Information Technology		**Faculty of Engineering**		**Faculty of Business and Economics**		**Faculty of Modern Philology and Social Sciences**	
	n=6210	n=479	n=6210	n=479	n=6210	n=479	n=6210	n=479
Rate by faculties (%)	17.0	17.3	14.9	14.8	45.5	46.1	22.7	21.7
Number by faculties	1053	83	927	71	2823	221	1407	104
Gender –n (%)								
Men	964 (91.5)	76 (91.5)	608 (65.6)	66.2 (47)	915 (32.4)	72 (32.6)	376 (26.7)	29 (27.9)
Women	89 (8.5)	7 (8.5)	319 (34.4)	33.8 (24)	1908 (67.6)	149 (67.4)	1031 (73.3)	75 (72.1)

Source: own study.

The data collection centered on the following areas of the quality of life (Figure 1):

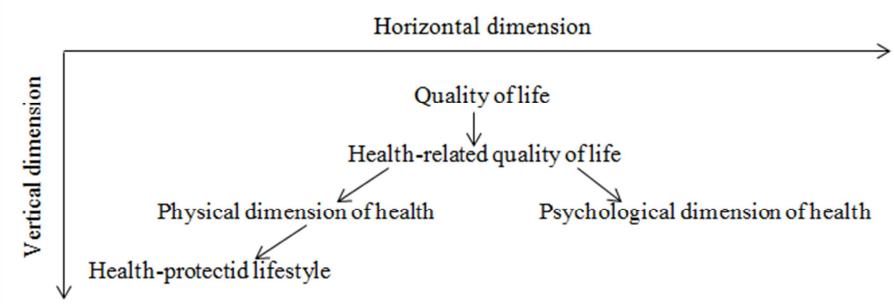

Figure 1. Examined areas of the quality of life
Source: Edvy, 2012.

The data were gathered with the help of a structured questionnaire. It was an adapted and modified version of a questionnaire created and used in the so-called Hungarostudy that was coordinated by Kopp & Kovacs (2006).

The questions were categorized as follows:

- Basic data: personal data, anthropometric data,
- Psychological indicators of the quality of life:
  - WHO General Well-being Index (Bech et al., 1996),
  - Shortened Beck Depression Inventory (BDI) (Beck & Beck, 1972),
  - Shortened Questionnaire (Kopp et al., 1998),
  - Shortened Hopelessness Scale (Beck et al., 1974),
- Health-related quality of life indicators:
  - Self-assessed health status (Kopp & Kovacs, 2006; Idler & Benyamine, 1997),
  - Life-limiting effect of pain (Kopp & Kovacs, 2006; Rethelyi et al., 2001; Martin et al., 1987),
  - Rate of illnesses, estimation of sick days based in previous years (Kopp & Kovacs, 2006),
  - Reduced work ability (Skrabski et al, 2004),
  - Burden of Disease Index (Novak et al., 2005).

We used SPSS to process the data. At first we calculated descriptive statistics. Then, by utilizing the two-sample *t*-test, we analyzed gender differences. To have a better understanding of the correlations between the variables, we chose factor analysis.

The reference group with which the university students' quality of life indicators were compared was chosen from the aforementioned Hungarostudy carried out by Kopp and her research team. Since in the Hungarostudy three age groups were differentiated (18-44, 45-64, and above 65 years), we considered the first group as a base for comparison. The fact that the two samples do not overlap totally as regards the age somewhat limited the generalization of the findings. However, the comparison can still be justified, as we applied Kopp's methodology and we used a slightly modified version of the questionnaire that was used in her research (Kopp & Kovacs, 2006).

We gave a detailed report about the above research methods in a paper whose topic was different; it dealt with the students' health consciousness, but it was based on the findings of another area of the same research (Edvy, 2012).

Results

Psychological indicators of quality of life

The mean of the students' first psychological indicator of quality of life measured by us, the *WHO-Five Well-being Index*, is slightly lower (8.35) than with the non-student young population (8.54); but the difference is far from being significant. Regarding the WHO-5 Index, the gender differences within the

student group are somewhat higher, but they are not significant, either. Comparing gender differences between the students and the non-student youth, the indices are more favorable with the male students, but again, the differences are not significant. We chose .05 as the level of significance ($p < 0.05$), as it is often used in social sciences.

The value of the *Beck Depression Inventory* is much more favorable with the students (4.12) than with common youth (8.56). It means that the majority of the respondents are without complaint, 8.8% of them have slight depressive symptoms, and only 0.6% of them have severe symptoms. Gender differences are significant between male and female students. Regarding the latter, more female students are depressed than common women.

The meanings of the findings in connection with the indicator of vi*tal exhaustion* are similar to those we found related to the WHO-5 Index: 1.86 with students and 1.88 with non-student youth. Since the VE indicator measures chronic stress from the point of view of psychological vulnerability (Kopp & Rethelyi, 2004), on the basis of the results it can be stated that, generally speaking, as many students suffer from permanent stress as common young people. Notwithstanding this fact, gender differences revealed that more female students suffer from chronic stress than non-student women, and the differences are significant.

The results of our investigation as related to the *Beck Hopelessness Scale* are entirely different from the results found by Kopp et al. (1998) with common people: the average values are much lower with students (0.75) than with non-student youth (1.33). This means that the feeling of hopelessness can be noticed with students to a lesser degree than with non-student young people. Gender differences are not significant within the student population; however, when comparing female students with non-student young women, the outcome is in favor of female students.

The aforementioned data related to the psychological indicators of quality of life are presented in Table 2.

Table 2. Psychological indicators of quality of life by gender

Psychological indicators of quality of life	**Men (n=224)**		**Women (n=255)**		**Total (n=479)**		**F**	**t**	**df**	**p**
	Mean	SE	Mean	SE	Mean	SE				
WHO-Five Well-being Index (WHO-5)	8.52	0.17	8.19	0.16	8.35	0.12	0.17	1.41	477	0.160
Beck Depression Inventory (BDI)	3.74	0.26	4.45	0.23	4.12	0.17	0.21	-2.08	477	0.038
Vital Exhaustion (VE)	1.53	0.1	2.15	0.11	1.86	0.07	2.99	-4.3	477	0.000
Beck Hopelessness Scale (BHS)	0.78	0.04	0.72	0.04	0.75	0.03	1.25	1.14	477	0.257

Source: own study.

The main tendency of the above findings is consistent with the results of an international study examining some basic psychological factors affecting the quality of life of Western and Central European university students (Wardle et al., 2004).

Indicators of health-related quality of life

Health-related quality of life was studied with the help of the following indicators: self-assessed health status, life-limiting effect of pain, rate of illnesses and estimation of sick days in previous years, reduced work ability, and Burden of Disease Index.

The results related to the *self-reported health status* show that students rated their health status (3.7) in a similar way as non-student young people did (3.76). However, we discovered significant gender differences within the student group: female students rated their health status less favorably than male students. No similar gender differences were found in connection with *work ability*. In spite of rating their health in a less favorable way, female students did not believe that their work ability was lower than that of

their male colleagues. Actually, both student and non-student youth hardly reported that their work ability was reduced.

According to the research data, the *limiting effect of pain* is lower with university students (1.47) than with the non-student young population (1.72). Female university students seem to be the most sensitive in this context; gender differences within the student's group are significant.

The rate of illnesses and the number of sick days also are higher with female students, but the gender differences are not significant. Nevertheless, comparing our research findings with the results of the investigation comprising non-student young people, it turned out that the students had fewer sick day (4.77 days versus 10.97 days) and the nature of gender differences is opposite with the two populations: female students are sick more often than male students, while non-student women are on the sick list less frequently than non-student men (Table 3).

Table 3. Indicators of health-related quality of life

Indicators of health-related quality of life	**Men (n=224)**		**Women (n=255)**		**Total (n=479)**		**F**	**t**	**df**	**p**
	Mean	SE	Mean	SE	Mean	SE				
Self-assessed health status	3.81	0.05	3.61	0.05	3.70	0.034	0.578	2.92	477	0.004
Reduced work ability	0.25	0.04	0.27	0.04	0.26	0.030	0.790	-0.42	477	0.674
Limiting effect of pain	1.33	0.04	1.59	0.04	1.47	0.029	16.91	-4.52	477	0.000
Number of sick days	4.57	0.66	4.95	0.60	4.77	0.444	0.074	-0.43	477	0.669
Rate of illnesses	5.86	0.31	6.43	0.31	6.16	0.219	0.77	-1.29	477	0.2

Source: own study.

Order of importance of the indicators

In order to discover simple patterns in the pattern of relationships among the different indicators of quality of life, we used factor analysis. The identification of the three first factors resulted in the rearrangement of the quality of life indicators. All psychological indicators of quality of life but the hopelessness scale and two indicators of health-related quality of life (rate of illnesses and self-rated health status) reinforce Factor 1. Out of the other three indicators of health-related quality of life, two (reduced work ability and number of sick days) belong to Factor 2. Factor 3 consists of one psychological indicator (Beck Hopelessness Scale) and one health-related indicator (limiting effect of pain) (Table 4).

Table 4. Results of the factor analysis

KMO index	0.651		
Bartlett's test			
Approx. Chi-Shi-Square	1784.287		
df	36		
p	0.000		
Components	**Factor 1**	**Factor 2**	**Factor 3**
Total	2.808	1.969	1.025
Cumulative %	31.20%	53.07%	64.47%
Beck Depression Inventory (BDI)	0.722		
Vital Exhaustion (VE)	0.71		
Rate of illnesses	0.703		
Self-rated health status	-0.673		
WHO-Five Well-being Index (WHO-5)	-0.615		
Number of sick days		0.92	
Reduced work ability		0.919	
Limiting effect of pain			-0.736
Beck Hopelessness Scale (BHS)			0.593

Source: own study.

Factor analysis was also used with research the data of the young population which was considered as a reference group for our investigation. According to the findings of that factor analysis, the indicators of health-related quality of life parted clearly from the psychological indicators of quality of life and explained the phenomenon to a much higher degree (22.8%) than the psychological indicators did (9.8%).

Since the number of variables included in the factor analysis with the student group was considerably different from that included in the factor analysis with the common young population, only the order of importance of the indicators could be compared justifiably. The results of this comparison show that the health-related issues influence much more the quality of life with non-student youth than with students, while with the latter psychological indicators play a more important role.

Discussion

When comparing the results of our study carried out at Pannon University with findings of research made on the basis of the same theoretical framework and with the help of the same methods, it can be stated that there are similarities and differences between university students and non-student youth concerning several indicators of their quality of life. Similarities could be observed mostly in connection with psychological indicators of quality of life. Regarding the indicators of health-related quality of life, more differences were registered but most of them were not significant. These results justified the first hypothesis of our research, according to which there are no significant differences between the quality of life indicators of the students and common young people.

The second hypothesis suggested that gender differences are smaller between male and female students than between non-student men and women of similar ages but the findings support only partly this assumption. The reality is more complex. On the one hand, data connected to most psychological and a few health-related indicators of quality of life justify this hypothesis. On the other hand, the fact that gender differences are significant between male and female students regarding the *Beck Depression Inventory,* and that there are significant gender differences between female and male students regarding two indicators of their health-related quality of life (self-assessed health status and limiting effect of pain), seem to deny this assumption.

The results show that the most striking difference was found in the order of importance of the indicators. With common youth, the indicators of health-related quality of life were rated higher. With students, psychological indicators of quality of life were at the top of the order. These findings verify the third assumption, according to which psychological factors play a more decisive role with students than with common young people of similar ages. These findings are similar to certain research results reported in international literature (Stecker, 2004).

There are many factors that affect people's quality of life. In our case, the differences and similarities between quality of life indicators of students and non-students can be explained the best by their age, level of education, and occupation. The similarities are rooted in the fact that both populations consist of young people more or less at similar ages. As known, quality of life decreases as people are aging. The higher the homogeneity of the age groups, the higher the chance that their members evaluate their quality of life in a similar way. The circumstance that the age composition of the two populations was not entirely identical but the non-student population comprised a little older age group caused differences in the value of the Beck Depression Inventory, as depressive symptoms occur more frequently with the relatively older members of the common population (Kopp & Kovacs).

The other differences between the students' and non-students' indicators of quality of life can be explained mainly by the differences in their education and occupation. The non-student population is much more heterogeneous from these perspectives; on the average, both the level of education and the socio-economic status is lower with the non-student youth. Their lower status might have an unfavorable impact on their subjective well-being. It does not always happen in this way. For instance, more female students are depressed than common women and more female students suffer from chronicle stress than non-student

women, probably because of the special expectations towards students during the exam periods. On the other hand, students, especially female students, have more optimistic views about life, in all probability because they have better life chances.

Conclusions

University students are regarded as privileged members of society and they are expected to be aware of their position. Moreover, they are expected to be more familiar with factors affecting the quality of life and to lead their way of life more consciously.

The major conclusion of our study is that, generally speaking, students have a deficit in this area at Pannon University, they do not feel better themselves in life either psychologically or physically, and they are not more satisfied with their life than the non-student youth of the same age. Although there are a few differences in both directions, as a whole, the students' indicators of quality of life are similar to the non-student young population. Psychological factors were regarded more important by students than health-related factors, and their health-related indicators of quality of life were more or less similar to those of common young people's. Members in the two groups evaluated their heath status, their work ability, and the limiting effect of pain in a similar way. According to the relevant indicator, students had sick days less frequently than common youth, but it does not necessarily mean that they are sick less frequently. The difference can also be rooted in the fact that they need not to be on sick pay when they fall ill.

In the mirror of our study, it can be stated that the students involved in our research do not have the surplus in the possession of which they could be the ambassadors of healthy and happy life either at present or in the future. Recognizing this hiatus, a special course was introduced at our university with the aim of providing students with special knowledge that can indirectly contribute to the improvement of their quality of life. We already started to examine the efficiency of this course. Moreover, although we have similar experiences with students enrolled at other Hungarian universities, strictly speaking the findings of our research are valid only for the students at Pannon University. Further studies are needed to discover whether the students' indicators of quality of life show similar or different tendencies nationwide.

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