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# Healthy aging: Quality of life and health behaviours in students of the University of the Third Age – A preliminary study

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# Healthy aging: Quality of life and health behaviours in students of the University of the Third Age – A preliminary study


## Abstract

Background: Previous studies have revealed high prevalence of students exhibiting unhealthy behaviour, such as insufficient physical activity during their transitional phase from school to university. Research shows that students' health is worse compared to non-student pears. However, health and its determinants in specific subgroups, such as students –future teachers, have remained largely unexplored. In contemporary society, teachers are expected to fulfil the role of health educators regardless of the subject they teach in school. So they may maintain good health potential and develop healthy lifestyle themselves. The present study aims to estimate the health status of first-year students at the Lithuanian University of Educational Sciences and to determine its relation to exercising behaviour. Material/Methods: The study was based on an anonymous questionnaire with the sample size of 314 students. Results: The survey revealed that 19.4% of the respondents were taken ill 4 times and more with acute diseases, 35.0% experienced frequent health symptoms over one year prior to the study, 34.7% used some medicine over the past half-year period. Headaches, tiredness in the morning, fast fatigue, nervousness, irritability, and sleeplessness were the most prevalent symptoms among them. In the study group 22.3% of the students were insufficiently physically active as reported exercising once or less per week. Conclusions: A relative risk of acute diseases was estimated to be 2.4 times higher for insufficiently physically active students compared to those who exercised at least twice per week.



## Keywords

university students, self-reported health status, health symptoms, physical activity

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**ORIGINAL**

# Healthy aging: Quality of life and health behaviours in students of the University of the Third Age – A preliminary study

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**Authors' Contribution:**
**A** Study Design
**B** Data Collection
**C** Statistical Analysis
**D** Data Interpretation
**E** Manuscript Preparation
**F** Literature Search
**G** Funds Collection

## abstract

**Background** The aim of the presented study was to analyse self-assessment of the quality of life and general health behaviours among the students of the University of the Third Age.

**Material/Methods** The research was conducted on a sample of 81 persons (M = 62.6, SD = 6.1). The tool used for assessing the quality of life was the Quality of Life Questionnaire (WHOQoL-BREF, Polish version), and the methodological basis for investigating health behaviours was the Health Behaviour Inventory.

**Results** The analysis conducted among all participants showed statistically significant positive correlations between the General Index of Intensity of Health Behaviours (GIIHB) and the quality of life in the Social Relationships domain (Rs = 0.23; $p \leq 0.05$). Statistically significant positive correlations were also found between Positive Thinking in the Health Behaviour Inventory and two WHOQoL-BREF domains: the Psychological domain (Rs = 0.24; $p \leq 0.05$) and the Social Relationships domain (Rs = 0.26; $p \leq 0.05$).

**Conclusions** The results of our research may prove very helpful in designing health promotion programs for an ageing society. Further longitudinal studies with a larger sample size are needed in order to identify more clearly the relationships that occur between health behaviours and the quality of life, especially in the process of ageing.

**Key words** Quality of life, health behaviors, University of the Third Age, elderly, aging

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## INTRODUCTION

Due to a steady rise in life expectancy and an increased number of elderly people, there is a need to undertake measures aimed at improving the health-related quality of life of senior citizens. Health-related quality of life and well-being for all individuals, as well as improving the health, function, and quality of life especially of older adults are a new topic area in the Healthy People 2020 Project [1]. In order to take the correct preventive action related to the quality of life of older people, it is necessary to identify the factors determining their lifestyle and their influence on well-being [2]. Among the factors influencing the quality of life, researchers often emphasize the importance of physical activity [3], nutritional habits [4, 5], BMI [6, 7] time devoted to sleep [8], and mental aspects [9]. Another related research topic concerned the importance of adult life behaviours and their influence on the quality of life in older age [10]. Also the predisposing factors for depression in older people were researched [11]. International research conducted among elderly people in 22 countries showed that the most important quality of life characteristics were having energy, feeling happy, having well-functioning senses, and being free from pain [12]. According to scholars, despite evidence concerning the influence of health behaviours on health, there is still too little data on the relationship between health behaviours and the quality of life, especially in older people [13]. For example, it has been shown that smokers exhibit a lower level of the health-related quality of life [14]; they also complain about difficulties in performing daily activities and loss of well-being significantly more often than non-smokers [15]. Research indicates that being overweight [6], lacking in sleep [8], depression [16] and social isolation [17] are all factors lowering the quality of life in older age.

Among the factors influencing the quality of life in older age, health behaviours and practices promoting health and well-being seem to be of special importance [13]. Health education programs conducted among people over 60 years of age contribute to a better understanding and an improvement in health behaviours of the participants [18]. Moreover, research indicates that access to late-life learning, in the form of attending the University of the Third Age, also has a positive influence on the quality of life of older people [19]. Apart from fulfilling the need for intellectual development, the University of the Third Age gives an opportunity for social integration and making new acquaintances, at the same time providing a pleasurable way of spending free time in older age [20]. Authors emphasize that participation in classes for a period longer than one semester is related to a higher level of satisfaction with life and greater psychological adjustment [21], and it reduces depression levels [22]. Nevertheless, introducing changes in health behaviours of older people is not an easy task and it entails a number of challenges [23]. Therefore, a clear understanding of which health behaviours influence the general quality of life and its specific domains is crucial for designing health promotion programs for older people.

### AIM

The aim of the presented study was self-assessment concerning the Overall Quality of Life and General Health, as well as the quality of life in four domains: Physical Health, Psychological, Social Relationships, and Environmental among students of the University of the Third Age, and their general health behaviours

such as: Proper Nutritional Habits, Preventive Behaviours, Positive Thinking and Health Practices.

## MATERIAL AND METHOD

### PARTICIPANTS

The research was conducted on a sample of 81 persons (M = 62.6, SD = 6.1), including 67 women and 14 men. All the participants were students of the University of the Third Age from the West Pomeranian region in Poland. Respondents filled out the questionnaire voluntarily. The respondents were divided into two groups based on Spirduso's classification [24], where the dividing mark is the age of 65. The group under 65 years of age involved 55 participants (M = 59.2, SD = 3.5), while the group over 65 years of age consisted of 26 participants (M = 69.6, SD = 4.0). The local Bioethical Committee approved of the research project.

### PROCEDURES

The tool used for assessing the quality of life was a Polish version of the abridged World Health Organization Quality of Life Questionnaire (WHOQoL-BREF) developed by Wołowicka and Jaracz [25], and the methodological basis for investigation health behaviours was Juczyński's Health Behaviour Inventory [26].

### MEASUREMENT OF THE QUALITY OF LIFE: THE POLISH VERSION OF THE WHOQOL-BREF QUESTIONNAIRE.

The WHOQoL-BREF questionnaire consists of 26 questions. The first two questions were analysed separately. They pertained to self-perception of the respondents' Overall Quality of Life and General Health. The remaining 24 questions assessed four aspects of the quality of life (Physical Health – 7 questions, Psychological – 6 questions, Social Relationships – 3 questions, and Environmental – 8 questions). The respondents were asked to mark their answers using a five-level rating scale (from 1 to 5 points). The quality of life in respective domains was expressed as the mean value, calculated according to the key and guidelines provided by the authors [25].

### MEASUREMENT OF HEALTH BEHAVIOUR: HEALTH BEHAVIOUR INVENTORY

The General Index of Intensity of Health Behaviours (GIIHB) was calculated by adding the results for all the 24 statements included in the Health Behaviour Inventory. The obtained GIIHB ranged from 24–120 points. The results were then converted to standard units and interpreted in terms of the sten score system. According to the guidelines presented by the author of the questionnaire, the respondents were divided into three groups: with a high GIIHB: 7–10 stens, an average GIIHB: 5–6 stens, and a low GIIHB: 1–4 stens. Four categories of health behaviours were analysed separately: Proper Nutritional Habits, Preventive Behaviours, Health Practices and Positive Thinking.

The presented study examines four categories: Proper Nutritional Habits, which according to Juczyński [26] takes into consideration mainly the type of foods consumed (e.g. wholegrain bread, vegetables or fruit); Preventive Behaviours, which include adhering to medical recommendations and obtaining information concerning health and sickness; Health Practices, which

pertain to daily habits connected with sleep, recreation and physical activity; Positive Thinking, which means avoiding strong emotions, stress, tension and depressing situations.

They were calculated as the mean value of the results in the analysed category (ranging from 1.0–5.0), following the adopted diagnostic key. The higher the result, the healthier the habits.

### STATISTICAL ANALYSES

The results were analysed statistically with the aid of STATISTICA 10.0 program. The distributions of variables were examined using the Saphiro-Wilk test. The relevance of differences was assessed with the aid of U Mann Whitney test. Relationships between the variables were analysed using Spearman's rank correlation test and a correlation coefficient was calculated for each pair of variables. The level of statistical significance was accepted at $p \leq 0.05$.

## RESULTS

The analysis of results of the WHOQoL-BREF Quality of Life Questionnaire for all the participating students of the University of the Third Age (n = 81) indicates that the respondents assessed their Overall Quality of Life at the average level of M = 3.64 (SD = 0.58), while the mean value for General Health assessment was M = 3.28 (SD = 0.81). The University of the Third Age students evaluated their quality of life in the Physical Health domain to be M = 12.66 (SD = 1.64) and the average level for the Psychological domain was M = 13.67 (SD = 1.95). As to the Social Relationships domain and the Environmental domain, the results were M = 13.81 (SD = 2.43) and M = 13.63 (SD = 1.76), respectively.

The analysis of health behaviours using the Health Behaviour Inventory showed that the GIIHB for all the participating University of the Third Age students oscillated around M = 86.31 (SD = 11.30). A low GIIHB exhibited 17.3% of the respondents, 53.1% average and 29.6% high. The mean value for Proper Nutritional Habits was M = 3.74 (SD = 0.67) and for Preventive Behaviours it amounted to M = 3.66 (SD = 0.62). As far as Positive Thinking is concerned, the participants scored an average of M = 3.50 (SD = 0.57), while for Health Practices it was M = 3.50 (SD = 0.59).

In Table 1 the WHOQoL-BREF Quality of Life Questionnaire results for the University of the Third Age students under 65 years of age were compared with the results obtained by the group of participants over 65 years old.

**Table 1.** Mean and standard deviation for the WHOQoL-BREF quality of life questionnaire results in groups of University of the Third Age students under 65 and over 65 years old and the significance of differences between the groups

| WHOQoL-BREF | | < 65 age M (SD) | ≥ 65 age M (SD) | U | *p* |
|---|---|---|---|---|---|
| Overall Quality of Life | | 3.65 (0.62) | 3.62 (0.50) | 0.21 | 0.84 |
| General Health | | 3.35 (0.82) | 3.15 (0.78) | 0.98 | 0.33 |
| WHOQoL-BREF domain | Physical Health | 12.78 (1.79) | 12.40 (1.26) | 0.72 | 0.47 |
| | Psychological | 14.10 (1.90) | 12.77 (1.77) | 2.69 | 0.01** |
| | Social Relationships | 13.96 (2.60) | 13.49 (2.04) | 0.76 | 0.45 |
| | Environmental | 13.70 (1.84) | 13.48 (1.61) | 0.47 | 0.64 |

** $p \leq 0.01$

The only statistically relevant difference between the groups was found in the Psychological domain. The group of University of the Third Age students below 65 years old assessed their quality of life in the Psychological domain (M = 14.10, SD = 1.90) statistically higher ($p \leq 0.01$) than the group over 65 years of age (M = 12.77, SD = 1.77). In all the remaining domains, age was not a differentiating factor. What is more, no statistically relevant differences between the groups were noted as far as the assessment of the Overall Quality of Life and General Health is concerned.

The Health Behaviour Inventory results for University of the Third Age students under and over 65 years old did not exhibit statistically relevant differences in the assessment of low, high and average GIIHB. Low GIIHB was attested in 21.8% of University of the Third Age students below 65 years of age and in 7% of students over 65 years of age. Average GIIHB characterized 47.3% of students below 65 years old and 65.4% of students over 65 years old. High GIIHB, in turn, was achieved by 30.9% of students below 65 years of age and 26.9% of students over 65 years of age. Comparative analysis also did not reveal any statistically significant differences between the groups in the mean values for respective categories of health behaviours (Proper Nutritional Habits, Preventive Behaviours, Positive Thinking and Health Practices, see: Table 2).

**Table 2.** Mean and standard deviation for the Health Behaviour Inventory results in groups of University of the Third Age students under 65 and over 65 years old, and the significance of differences between the groups

| Health Behaviour Inventory | < 65 age M (SD) | ≥ 65 age M (SD) | U | *p* |
|---|---|---|---|---|
| General Index of Intensity of Health Behaviours | 85.76 (12.31) | 87.46 (8.90) | -0.14 | 0.89 |
| Proper Nutritional Habits | 3.72 (0.74) | 3.78 (0.49) | 0.01 | 0.99 |
| Preventive Behaviours | 3.61 (0.66) | 3.72 (0.51) | -0.58 | 0.56 |
| Positive Thinking | 3.52 (0.58) | 3.46 (0.57) | 0.88 | 0.38 |
| Health Practices | 3.44 (0.58) | 3.62 (0.60) | -1.15 | 0.25 |

The next stage of statistical analysis focused on investigating whether there is a relationship between a subjective view of the quality of life assessed using WHOQoL-BREF and the health behaviours declared in the Health Behaviour Inventory. The analysis of correlations conducted among all the participating University of the Third Age students (see: Table 3) showed statistically relevant relationships between GIIHB and the quality of life in the domain of Social Relationships. Respondents with higher GIIHB assessed their quality of life higher in the aspect of the Social Relationships domain (Rs = 0.23; $p \leq 0.05$). Statistically relevant positive correlations were also found between Positive Thinking in the Health Behaviour Inventory and two WHOQoL-BREF domains, the Psychological domain (Rs = 0.24; $p \leq 0.05$) and the Social Relationships domain (Rs = 0.26; $p \leq 0.05$).

Table 3. Correlations between the results of WHOQoL-BREF and health behaviour inventory conducted among students of the University of the Third Age

| Health Behaviour Inventory \ WHOQoL-BREF | Overall Quality of Life | General Health | WHOQoL-BREFdomain: Physical Health | Psychological | Social Relationships | Environmental |
|---|---|---|---|---|---|---|
| General Index of Intensity of Health Behaviours | 0.14 | 0.15 | 0.14 | 0.14 | 0.23* $p = 0.04$ | 0.16 |
| Proper Nutritional Habits | 0.11 | 0.12 | 0.08 | 0.00 | 0.13 | 0.02 |
| Preventive Behaviours | 0.05 | 0.13 | 0.12 | 0.07 | 0.19 | 0.12 |
| Positive Thinking | 0.08 | 0.13 | 0.10 | 0.24* $p = 0.03$ | 0.26* $p = 0.02$ | 0.15 |
| Health Practices | 0.19 | 0.00 | 0.08 | 0.00 | 0.06 | 0.16 |

*$p \leq 0.05$

## DISCUSSION

In the present study, the quality of life, health behaviours and the relationship between these factors were analysed. 53.1% of the respondents obtained the General Index of Intensity of Health Behaviours (GIIHB) at a moderate level, whereas 29.6% exhibited a high level and 17.3% a low level. The results of the present study are in agreement with previous studies concerning these factors conducted among University of the Third Age students (46% moderate level, 28% high level and 26% low level, respectively) [27]. These results are slightly different from the data obtained by other authors [28] who noted the highest percentage of participating University of the Third Age students to have a high GIIHB (43.2%), 39.7% moderate and 17.1% low one. Proper health behaviours are important to prevent diseases and to reduce the death rate among people. Therefore, it is very comforting to find that in our research, as well as in the above-mentioned studies, it was the smallest percentage of respondents that was characterized by low GIIHB.

In our study, the analysis of the quality of life self-assessment results showed that the participating University of the Third Age students perceived their Overall Quality of Life as average (M = 3.64) and General Health was assessed by them slightly lower (M = 3.28). These results are similar to results obtained in studies on different Universities of the Third Age in Poland [20] and abroad [29]. It is reassuring that, as present study indicates, there is no significant difference in results between people under and over 65 years of age, which implies that despite aging, the perception of Overall Quality of Life and General Health among the University of the Third Age students participating in the research does not deteriorate.

Respondents under 65 years of age assessed their quality of life in all the four domains (Physical Health, Psychological, Social Relationships and Environmental) slightly better than those over 65 years old. Nevertheless, statistically relevant differences were noted only in the Psychological domain ($p \leq .01$). The observed difference between the two groups most probably indicates a lower level of satisfaction with life, self-satisfaction and a sense of meaning in life among the participants over 65 years of age. These observations confirm the results of other research [30] in which the influence of age on assessing the quality of life in the Psychological domain was noted in a study of older people in Turkey. Analysing changes perceived in the quality of life over age, the researchers observed that the highest score in the Psychological domain was achieved by people aged 65-69, while in the 70-74 and 75-89 age brackets, as well as in people over 80 years old, the perceived quality of life gradually decreased. Other authors [31] indicate that mental aspects play an extremely significant role in the subjective perception of the quality of life, and a lower quality of life was observed in elderly people with depression.

Moreover, one of the most important factors influencing the perception of the quality of life by older people is functional fitness. In present research both the respondents below and over 65 years of age assessed their quality of life in the Physical Health domain as the lowest. It seems understandable, since the process of ageing and past diseases cause deterioration in physical fitness, functional mobility and the ability to work, as well as increased pain and discomfort.

Earlier research results [32] indicate that Social Relationships and Environmental domains are important in the subjective perception of the quality of life by elderly people. Moreover, other authors [33] suggest that according to the elderly social and environmental domains in elderly assisted living facilities are low. Our results also showed that for the majority of respondents, the Social Relationships domain of the quality of life was significantly associated with GIIHB and one of the health behaviour categories, i.e. Positive Thinking. Also Psychological domain of the quality of life was strongly correlated with Positive Thinking. These finding are in agreement with the observations made by other authors [e.g. 34], which imply that positive thinking, positive feeling and positive emotions increase the quality of physical and psychological health, and the subjective well-being.

The limitation of the present study is that the analysis was narrowed to the health behaviour variables adopted in the questionnaire, which creates some interpretation difficulties, as few authors [35, 36] have analysed the

relationship between health behaviours and the quality of life, based on the Health Behaviour Inventory and WHOQoL-BREF, respectively. Also the specific nature of the sample (University of the Third Age students) and a limited number of participants make it impossible to draw general conclusions true for the whole population of older adults and elderly people. Nevertheless, the results of the present research are a source of important information concerning the health behaviours undertaken by the students of the University of the Third Age and provide an insight into a subjective perception of the quality of life and health among senior citizens.

## CONCLUSION

In conclusion, the present study concentrated on how University of the Third Age students perceive their quality of life in relation to the health behaviours they undertake. Quality of life, especially in Social Relationship and Psychological domains, is shaped by health behaviours. Positive Thinking is important in Social Relationships and Psychological domains. Also the level of health behaviours is positively correlated with the Social Relationships domain. Further longitudinal studies with a larger sample size are needed in order to identify more clearly the relationships that occur between health behaviours and the quality of life, especially in the process of ageing. The results of such research may prove very helpful in designing health promotion programs for an ageing society.

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