

ORIGINALNI RAD – ORIGINAL ARTICLE

Health status and life satisfaction of self-assessment of students at the University of Nis (with a focus on different fields of study, physical activity and gender differences)

Samoprocena zdravstvenog stanja i kvaliteta života studenata Univerziteta u Nišu (sa fokusom na polje studija, fizičku aktivnost i razlike među polovima)

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**Summary** **The Aim:** The authors aimed to examine and analyze the self-assessed mental and somatic health status, life satisfaction and level of physical activity of students at the University of Nis, according to the function of different study programs (fields of study) and gender.

**Material and methods:** The research was conducted on a sample of 172 respondents, 94 female and 78 male ones, aged 19 to 23. The interviewed students attended undergraduate studies in the winter semester of the academic year 2018/2019, at the Technical Faculties and the Faculty of Sports and Physical Education, University of Nis. The information was collected by filling out a modified form of the Sportello Salute Giovanni questionnaire which contained questions that examined the following domains in the student population: self-perception of psychological and physical health, life satisfaction, level of physical activity and frequency of health-related lifestyle habits such as smoking and alcohol consumption.

**Results:** The results show a statistical difference between the examined parameters of self-assessed health by gender, weekly frequency of physical activity and an alarmingly low percentage of non-smoking students. The students of the Faculty of Sports and Physical Education have a generally high level of life satisfaction and self-assessed health status compared to students of Technical Faculties, which certainly singles out and impacts physical activity as one of the important factors in preserving and improving health. The results showing respondents' life satisfaction indicate that female population has significantly better values of self-assessed health, being also more satisfied with life compared to male population.

**Conclusion:** Schools and colleges are the most suitable locations and provide an opportunity to promote a healthy lifestyle, with physical education classes as a principal element in promoting healthy behaviours.

**Key words:** self assesment, students, health status, health-related lifestyle habits

**Sažetak** **Cilj** ovog rada bio je da se ispita i analizira samoprocenjeno psihičko i somatsko zdravstvenostanje, životna satisfakcija i nivo fizičke aktivnosti studenata Univerziteta u Nišu, u funkciji različitih studijskih programa (polje studija) i pola.

**Materijal i metode:** Istraživanje je sprovedeno na uzorku od 172 ispitanika, 94 ispitanika ženskog pola i 78 ispitanika muškog pola, starosti 19 do 23 godina. Anketirani su studenti osnovnih akademskih studija u zimskom semestru akademske godine 2018/2019, na Tehničkim fakultetima i na Fakultetu sporta i fizičkog vaspitanja Univerziteta u Nišu. Informacije su prikupljane popunjavanjem modifikovane forme upitnika Sportello Salute Giovanni. Upitnik je sadržao pitanja koja su ispitivala sledeće domene: samo-percepcija psihološkog i fizičkog zdravlja, životnu satisfakciju, nivo fizičke aktivnosti i učestalost navika kao što su pušenje i konzumacija alkohola u populaciji studenata.

**Rezultati:** Rezultati pokazuju statističku razliku ispitivanih parametara samoprocenjenog zdravlja po polu, i nedeljnoj frekvenci fizičke aktivnosti i alarmantno nizak procenat studenata nepušača. Studenti Fakulteta sporta i fizičkog vaspitanja imaju generalno visok stepen životne satisfakcije i samoprocenjenog zdravstvenog stanja u odnosu na studente Tehničkih fakulteta, što svakako izdvaja i impaktira na fizičku aktivnost kao na jedan od važnih faktora u očuvanju i unapređenju zdravlja. Rezultati koji prikazuju koliko su ispitanici zadovoljni životom prikazuju da je ženska populacija ima znatno bolje vrednosti samoprocenjenog zdravlja i da su zadovoljnije životom u odnosu na mušku populaciju.

**Zaključak:** Škole i fakulteti su najpodesnije lokacije i pružaju mogućnost za promociju zdravog stila života, sa nastavom fizičkog vaspitanja kao ključnim elementom u promociji zdravih obrazaca ponašanja.

**Ključne reči:** samoprocena, studenti, zdravstveni status, životne nauke

## Introduction

The World Health Organization (1) considers health to be a basic human right and defines it as a state of complete physical, social and mental well-being, not merely the absence of disease. Health status is assessed objectively through examinations conducted by qualified professionals, but it can also be subjectively determined through a questionnaire. (2). Health status is a frequently analyzed variable in epidemiological research, self-assessment of health and life satisfaction is one of the frequently used indicators of overall health in numerous epidemiological studies primarily because of the simplicity of its implementation.

Self-assessment of health status is the result of the analysis of several factors closely related to the individual perception of the respondents, which is assessed on different scales and represents a complex process. The most frequently assessed domains are quality of life, physical environment and lifestyle of an individual (2) Data from the literature indicate that chronic diseases, functional status and psychosocial symptoms were the strongest determinants of poor health status self-assessment and that people with negative perceptions of their health show higher propensity to get sick and die (3).

Lifestyle factors, chronic diseases and socio-demographic characteristics have a significant impact on health self-assessment. Lifestyle habits that significantly affect health such as smoking, diet, sleep quality and physical exercise are gaining more and more attention from the scientific community (4). It has been confirmed that physical activity and a healthy lifestyle reduce risk factors for the occurrence and development of many chronic diseases (5). People who practice a proactive lifestyle, apart from preventing serious chronic diseases, evaluate their health more positively than those who do not have such lifestyle habits.

The period of late adolescence and youth is recognized as a critical time for the adoption and retention of exercise behaviour that affects the degree of physical activity of each individual (6). Although research shows the importance of engaging in and adopting physical activity in that period of life, students do not seem to be aware of it. Wallace and co-workers (7) pointed out the occurrence of a significant decline in physical activity during adolescence (15-19 years) but also in young adults (20-25 years). The threat to the psychosomatic health of a young person is insufficient physical activity. Many scientific studies show the importance of physical activity as an important factor in maintaining health (8,9). Data from a survey conducted at the University of Zagreb show that 74% of students do not engage in any physical activity (10).

This paper aimed to examine and analyze the self-assessed mental and somatic health status, life satisfaction and level of physical activity of students at the University of

Nis, in the function of different study programs (fields of study) and gender.

## Methods

The research was conducted on a sample of 172 respondents, 94 female and 78 male ones, aged 19 to 23. The interviewed students attended undergraduate studies in the winter semester of the academic year 2018/2019, at the Technical Faculties and the Faculty of Sports and Physical Education, University of Nis. All respondents were first informed about the study, its purpose and goal were explained to them. The questionnaire contained questions that examined the following domains: self-perception of psychological and physical health, life satisfaction, level of physical activity and frequency of habits such as smoking and alcohol consumption in the student population. The study was transversal in nature. All respondents were voluntary participants in the survey.

Information was collected by completing a modified form of the Sportello Salute Giovanni (Health Information Desk) questionnaire used in the project of the same name (2).

Life satisfaction was assessed on a scale with values of 0-10, where, in the analysis, answer 0 was taken as dissatisfaction with current life, while answer 10 on the scale indicates complete life satisfaction.

To evaluate physical fitness, we analyzed the data received in response to questions about how many times a week you are physically active and how many hours a week you are physically active, and we estimated the average length of exercise during the week and the average number of exercises during the week.

Our research also considered the data obtained from the following questions related to the somatic perception of health:

- Frequency of headaches in the student population in the last twelve months
- Frequency of stomach pain in the last twelve months
- Tiredness frequency in the last twelve months
- Frequency of dizziness
- Ability to cope with everyday problems
- Frequency of sleep problems (troubles falling asleep and sleep quality) frequency of habits such as smoking and alcohol consumption.

Data were processed with the Statistical Package for Social Sciences SPSS (v17.0, SPSS Inc., Chicago, IL, USA). In the first step, the basic descriptive parameters and distribution of variables are determined. The arithmetic mean (Mean), standard deviation (Std. Deviation) was determined. The normality of the distribution of variables was derived using the Kolmogorov-Smirnov test. To examine the differences between two independent groups, different faculties and genders, the Mann - Whitney U test was used in individual variables. The level of statistical significance was at  $p < 0.05$ .

## Results

Table 1 shows the structure of respondents by gender, age and field of study.

**Table 1.** Respondents

**Tabela 1.** Ispitanici

	Gender		Faculty	
	Male (N=78)	Female (N=94)	FSPE (N=91)	Technical faculties (N=81)
<b>Age</b>	21.59±1.99	21.23±2.12	21.03±1.08	21.8±2.74
<b>Body height (cm)</b>	181.58±7	169.41±6.27	173.62±9.31	176.39±8.36
<b>Body weight (kg)</b>	81.09±10.38	61.36±8.71	67.25±14.13	73.74±12.32

Differences in somatic perception of health status are shown in Table 2. When it comes to statistically significant differences by gender, we see that there is a significant difference in stomach pain, tiredness, dizziness and sleep problems. Regarding the differences related to studying at different faculties, only in the variable problem with "nervousness", there is a statistically significant difference ( $p = 0.020$ ).

**Table 2.** Mann - Whitney U difference test

**Tabela 2.** Man – Vitnijev U test razlike

	Gender	Faculty
<b>Headache</b>	.110	.402
<b>Stomach pain</b>	.001	.269
<b>Back pain</b>	.201	.424
<b>Tiredness</b>	.033	.141
<b>Nervousness</b>	.346	.020
<b>Dizziness</b>	.004	.062
<b>Troubles falling asleep</b>	.036	.225

As for the frequency of headaches in the student population in the last twelve months, 16.3% never had a headache, 56.4% answered that they rarely had it and 13.4% answered that they had a headache almost every month. Regarding the frequency of stomach pain in the last twelve months, 13.4% had no stomach problems, 56.4% of respondents rarely had a stomach problem and 13.4% had a problem with stomach pain almost every month.

When asked to report the frequency of tiredness in the last twelve months, 47.7% of respondents answered that they were rarely tired in the past twelve months, and 20.3% did not feel tired in a certain period.

As for the frequency of dizziness, 37.8% answered that they rarely feel dizziness while 5.2% of the respondents have felt dizzy in the last twelve months.

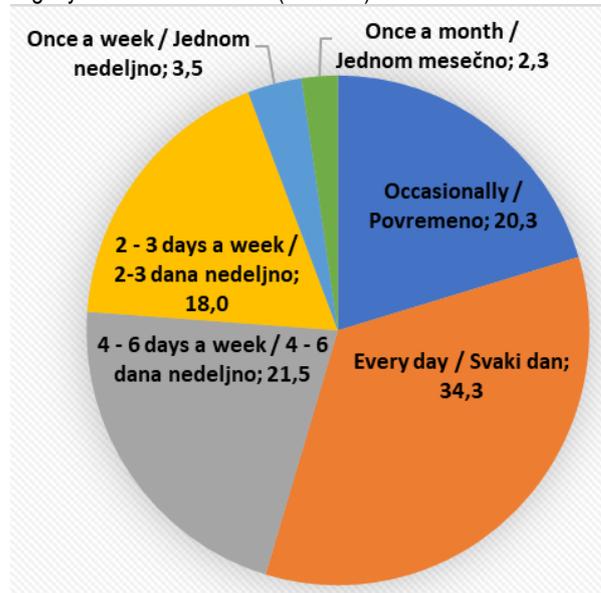
Regarding the ability to deal with everyday problems, 47.1% of the respondents answered that they can cope very well with everyday problems, while 8.7% of the student

population does not know how to deal with situations when there is a problem.

Related to the frequency of sleep problems (sleep problems and sleep quality), 39% had no sleep problems in the last twelve months while 37.8% of respondents rarely had problems.

As far as the frequency of habits such as smoking and alcohol consumption is concerned, when asked how often they consumed alcohol in the last twelve months, 38.4% answered that they never consumed alcohol, 14% once during twelve months and 19.2% more than three times. When it comes to consuming tobacco smoke, respondents answered that 21.5% of them do not smoke, 22.1% take fewer than five cigarettes a day and 12.2% take 5 to 15 cigarettes a day.

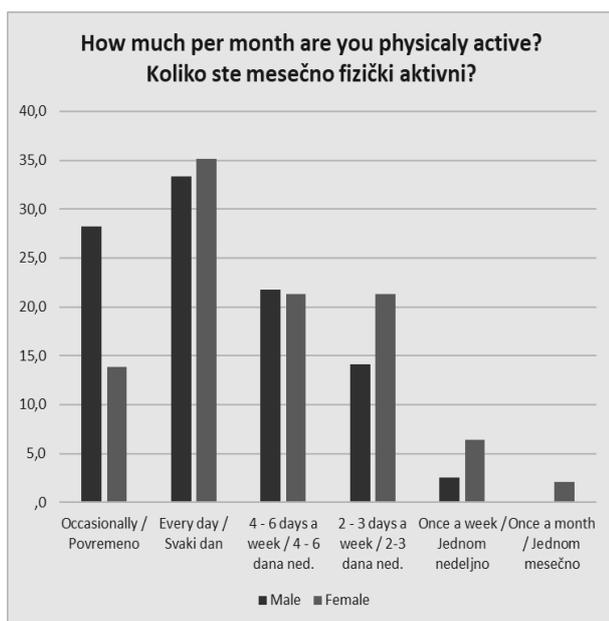
Regarding the differences in the answers by gender and the answers to the question of how satisfied you are with life, female students with a mean value of 8.89 (SD 1.84) are more satisfied with life than men where the mean value obtained in answers related to life satisfaction was 7.71 (SD 2.03). As for the answers to the question of how satisfied you are with life and their differences when it comes to different study programs, FSPE students had a mean of 9.42 (SD 1.45) while students of Technical Faculties had a slightly lower mean of 7.16 (SD 1.89).



**Graph 1.** Frequency of physical activity on a monthly basis in %

**Graph 1.** Učestalost fizičke aktivnosti na mesečnom nivou u %

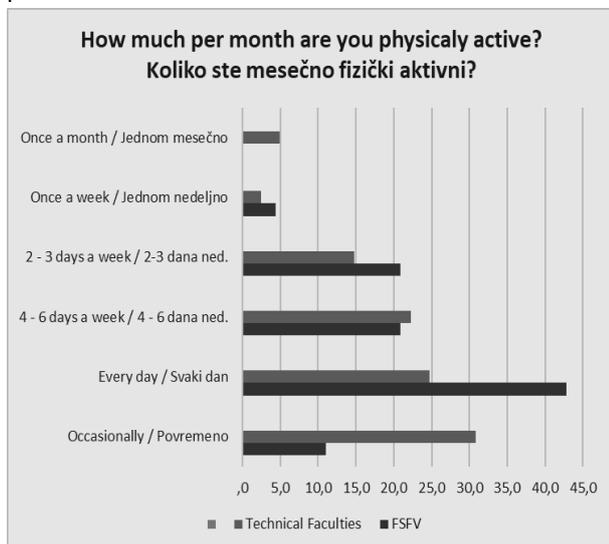
When it comes to the frequency of physical activity on a monthly basis 34% of students stated that they exercise daily, 22% of surveyed students exercise 4-6 days a week, 18% answered that they are physically active 2-3 days a week (Graph 1)



**Graph 2.** Frequency of physical activity according to the gender of students at the University of Nis

**Graph 2.** Učestalost fizičke aktivnosti prema polu ispitanika Univerziteta u Nišu

By stratifying physical activity according to gender, we see that female respondents are somewhat more active than male respondents in daily exercise (Graph 2).



**Graph 3.** Frequency of physical activity of students at the University of Nis

**Graph 3.** Učestalost fizičke aktivnosti prema različitim fakultetima Univerziteta u Nišu

FSPE students showed better results in the score of weekly physical activity compared to the respondents of the Technical Faculties ( $p = 0.025$  \*), while there was no statistically significant difference in the monthly score of physical activity (Chart 3).

## Discussion

Our study assessed the following parameters: self-perception of psychological and physical health, life satisfaction, level of physical activity and frequency of habits such as smoking and alcohol consumption to estimate the health of students of all four years of undergraduate studies at the Technical Faculties and the Faculty of Sports and Physical Education at the University of Nis. The data from the available epidemiological studies show that there is a small number of studies of this type and that similar ones have not been conducted in our country.

The results showing how satisfied the respondents are with their life indicated that the female population has significantly better values of self-assessed health and that they are more satisfied with life compared to the male population. The study (11) has similar results which show that women have slightly better mean values of life satisfaction assessment compared to the male population. However, studies in Italy and Europe (2) indicate slightly different results where male respondents 80.8% compared to 75.2% of women stated that they have good or very good health while their mean values of life satisfaction results were 7.55 (SD 1.52) in men and 7.42 (SD 1.38) in women. Although this indicator is subjective and not comparable between countries due to differences in culture, age, education and poverty, the data show that personal assessment of one's health can be used as an indicator in health care (12,13). Students of the Faculty of Sports and Physical Education showed better results in the assessment of life satisfaction in relation to students of Technical Faculties.

As for the frequency of physical activity in relation to gender, the results of our research show that men are more regular in physical exercise (from 4 to 6 times a week) compared to female respondents, but not in daily exercise. (14) showed in their research that, when it comes to activities of manic intensity (walking), the authors obtained results in which both male and female students are equally active (men = 57.9%, women = 57.5%). As for their engagement in physical activity, 62% of the male population spend more than six hours a week doing some sports, while 61% of female students are active (15). 34% of students at the University of Nis reported daily physical activity, while 44% reported physical activity of varying frequency (78% of students were physically active). (16) conclude that 78.7% of adolescents are involved in some form of physical activity while the study conducted on a population of students in Zagreb (10) showed that as many as 74% of students are inactive, and only 6% are actively involved in sports. The results of the research on the frequency of physical activity based on the analysis of data from different faculties indicate that students of the Faculty of Sports and Physical Education are significantly more engaged in daily activities compared to students of Technical Faculties ( $p = 0.025$  on the weekly score of physical activity). These results can be explained by the fact that students of the Faculty of Sport

and Physical Education have to attend classes that include a practical part and a type of physical activity.

Our research shows that there are differences in somatic perception of health status regarding the differences related to the field of study as well. Only when it comes to the problem and the feeling of nervousness, there is a statistically significant difference between the respondents who attend different faculties and study programs. Also, among students of the Faculty of Sports and Physical Education, we note differences in other parameters of health status self-assessment in a lower percentage of reporting symptoms of health status self-assessment, but not at the level of statistical significance.

Differences in somatic perception of health status show that there is a statistically significant difference between male and female respondents of students at the University of Nis. Such results were also obtained by (2) where it can be seen that there are differences between male and female students in the perception of health status. There are also differences in the somatic perception of health status when it comes to the differences in relation to the faculties and study programs. Only with the problem and the feeling of nervousness, there is a statistically significant difference in the respondents who attend different study programs. As for cigarette consumption, a much smaller number of students at the University of Nis (21.5%) reported not having a habit of smoking compared to the previous research, (11) where 52.6% of respondents said they had never smoked, as well as in a 2008 survey (15) where 82.8% of respondents had never consumed cigarettes, which requires additional research.

## Conclusion

Our study examined the indicators of overall health in the student population of the University of Nis, where high results were obtained in most of the examined parameters. The data show a statistical difference between the examined parameters of self-assessed health by gender, weekly frequency of physical activity, and an alarmingly low percentage of non-smoking students.

We can see that the students at the University of Nis are as physically active as students from the surrounding countries. Students of the Faculty of Sports and Physical Education have a generally high level of life satisfaction and self-assessment of health status compared to students of Technical Faculties, which certainly singles out and impacts physical activity as one of the important factors in preserving and improving health.

As it is known, physical activity includes several adaptive physiological mechanisms and interplay of various hormones and humoral factors with benefits to overall health and wellbeing. Literature data show that increased physical activity induces endorphin production. It is well known that endorphins minimize pain, improve mood and boost life energy (17,18).

Additional explanation of the importance of physical activity in school children and youth is not necessary. These data are convincing enough that additional scientific evidence is not necessary to justify the promotion of physical activity. It is enough to consider the importance of physical activities in disease prevention and health promotion, as indispensable components of a healthy life and prerequisites for longevity. Once we have embraced the importance of youth activities, we face new challenges. How can young people be motivated to improve their habits? Should interventions target the general population or high-risk, sedentary youth? How can promotional exercise programs be formulated for special groups? What is the role of organized sports?

There are a number of issues that can be focused on and that may be the subject of future research. How to promote and increase the level of activities of school children and youth, as well as the knowledge about the harmfulness of tobacco and alcohol consumption? Schools and colleges are the most suitable locations and provide an opportunity to promote a healthy lifestyle, with physical education classes as a key element in promoting healthy behaviors.

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