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Research paper



# The effect of sociodemographic characteristics on the self-evaluation of health among the population in Serbia

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#### **Abstract**

This paper analyses the impacts of various demographic and socioeconomic characteristics on the way Serbian people assess their own health. Marital status, education level, and occupation were analysed using the three-way ANOVA statistical method. The results of the statistical analysis show that each of the selected features significantly affects the subjective experience of health conditions. Regarding marital status, unmarried people assessed their health status most favourably. In terms of education, a better perception of health was observed in people with higher levels of education. And considering gender, only marital status had an impact on the self-assessment of health in both sexes. For men, education had an impact, whereas for women, it was the type of occupation. The specificity in perception of one's own health in the elderly population of Serbia (above 60 years old) is reflected in the fact that occupation was the only factor that influenced the subjective experience of health status.

#### **KEYWORDS**

sociodemographic characteristics, self-assessment of health, population of Serbia, three-way ANOVA

#### INTRODUCTION

Preserving and improving the health of the population is a goal to which every state aspires. That requires systematic tracking and analysis of data and indicators of disease and disability incidence and prevalence, as well as of living conditions. In accordance with the phases of epidemiological transition (Omran, 1971), changes in living conditions caused a change in citizens' perception of their own health status, which was also based on new indicators. The modern approach to assessing the health status of citizens is less focused on diseases and more focused on the 'positive' aspects of health. Thus, attention is directed towards personal attitudes to health and the responsibility for preserving it and avoiding diseases, especially because the risk factors for the most common diseases of the modern world are primarily tied to lifestyle and bad individual habits (smoking, alcoholism, inadequate diet, insufficient physical activity). The perception of one's own health is a good source of information about health condition and is often used in combination with objective indicators for national health assessments. This has been used since the 1950s for health and gerontological research (Jylha et al.1998). It is an evaluation of one's own health on the whole and in its individual aspects, namely physical, psychological, and social wellbeing. Subjective feeling (self-evaluation of health and satisfaction with one's own life) has a significant medical justification. Well-developed self-consciousness about personal responsibility is important for preserving good psychological and physical health and social wellbeing; it is in accordance with prevention as the best and, for society, the most economical way of achieving that goal. Citizens' attitude towards health and their experiences with health services are important for defining and further developing health policy. In the absence of comprehensive and reliable health statistics at the national level, the results of surveys on the self-assessment of one's health are very useful in creating and monitoring health policy. The World Health Organization (WHO) and the European Commission both recommend self-evaluation as a global indicator of citizens' health status (De Bruin et al. 1996: European Commission, 2004).

Self-evaluation of one's own health represents a combination of an objective state of health and subjective criteria. Subjective feeling is sometimes crucial: a person might feel healthy despite having one or more chronic diseases, or they might feel ill despite no objective proof of illness. When it comes to methodoloav. self-evaluation of one's own health is quite complicated, and this should be taken into consideration when analysing the obtained empirical data. There are different approaches when it comes to health self-evaluation (Fienberg et al.1985). People might evaluate their current health condition compared to the way they felt before, or they might compare themselves to people of similar age in their surroundings. Also, the results of these self-evaluations greatly depend on the way the answers are defined in the questionnaire. In response to the question 'How would you define your health condition?', the options are 'I feel very bad', then 'solid', and finally 'I feel great'. 'I feel very bad' would indicate that a person suffers from an illness, whereas 'solid' would mean the absence of any illnesses. In such context, it would be unclear when the answer should be 'I feel areat'.

Also, a person's character and personal characteristics influence what kind of answer they'll give. Research on a sample of 2.772 citizens in the US showed that people who are more open towards new experiences, who are extroverts, and who are more agreeable tend to feel much healthier than people who are introverts and closed to new experiences (Goodwin and Engstrom 2002).

The way people think of their health depends on a great number of factors. Those factors include personal traits, socioeconomic characteristics, and also the cultural characteristics of the environment a person lives in. Self-assessment of health status was researched through the lens of different characteristics of the population, such as age, gender, and socioeconomic characteristics. Level of education, economic activity, and marital status are all characteristics that influence the perception of one's own health and satisfaction with life.

Research conducted in the US during from 1990 to 1995 showed that people with a higher level of education had lower levels of emotional distress, such as depression, anxiety, and rage, while less-educated people felt more anxious and more depressed (Ross and Van Willigen 1997). The study also showed that a higher level of education positively contributes to the self-evaluation of one's own quality of life by boosting earning possibility, thus increasing the feeling of control over one's own life and willingness to deal with problems, and also allowing a person to decide what direction their life will take. In such circumstances, a person can have more stable social relationships. especially when it comes to marriage. The level of general education, especially health education, is greatly important when it comes to health preservation, especially for disease prevention. People with higher education are more likely to adopt positive habits when it comes to health, because they have greater knowledge of risk factors and their consequences. Education can have a positive impact on people's level of social engagement, greater cohesion, and security in society. It's believed that of all demographic characteristics, age and education have the biggest impact on perceptions of one's own health (Kaletaet al. 2009).

Research has shown that even though working has historically had a positive effect on people's health, given the recent and large-scale social changes in the world, it is now increasingly negatively impacting people's health (Bećković et al. 2000). Frequent and prompt changes in technology, longer working hours, job insecurity, continuous stress, and exhaustion can trigger certain mental conditions and illnesses, making the results of self-evaluation worse.

In this paper, we examine the effects of marital status, level of education, and occupation on personal perceptions of health among Serbian citizens. The stances of people who are 30 years old or older were analysed, because it is assumed that by that age they have already acquired their desired level of education, are economically active, and have their marital status defined. The results of people who are 60 years old or older are examined separately.

#### 2 METHODOLOGY

The data used in this research was acquired from a survey titled Survey on income and living conditions, which was conducted by the Statistical Office of the Republic of Serbia during 2013 (Statistical Office of the Republic of Serbia, 2013). This survey was taken by approximately 20,000 people in 8,000 households. The necessary data for analysis was obtained via an official request to the Statistical Office of the Republic of Serbia. This is micro-data and is not publicly available. The aim of the analysis was to determine whether the selected features (marital status, level of education, and occupation) have an impact on people's self-assessment of their own health, not to actually analyse their health status. Therefore, the fact that the analysed data is from 2013 does not diminish the significance of the obtained results: because of the nature of the examined characteristics, their impact on the self-assessment of health should not be subject to significant fluctuations over times. It is known that age affects perceptions of personal health and quality of life. This is most often the case among older people who have objectively faced pains and illness, and who often assess their health to be worse.

In our empirical analysis, the effect demographic characteristics of citizens have on the perception of personal health is tested using the three-way ANOVA method (Kovačić 1994). This statistical method is used to compare the mean values of several groups: it is based on comparing the ratio of variability in a group and between groups (Prica et al. 2017). The following hypotheses were tested:

H1: The chosen demographic characteristics have an impact on the perception of one's own health status:

H2: There is a difference between men and women when it comes to evaluating one's own health status: and

H3: There are some peculiarities in the self-evaluation of people older than 60.

The three chosen characteristics of citizens (legal marital status, level of education, and occupation) are the so-called controlled factors or explanatory variables. All other factors that affect people's subjective experience of their own health

are defined as uncontrolled variables. Each controlled factor in the analysis has treatments that were defined beforehand; therefore, this is named a model with fixed effects. We used the bootstrap method to test our research hypotheses (Efron and Tibshirani 1993). The advantage of this method is that it is robust when it comes to the violation of the assumption of population distribution and homoscedasticity. The only assumption in this method is that the data used 'reasonably' represents the population from which it was taken, which in this case is fulfilled.

#### 3 EMPIRICAL ANALYSIS

The variable 'How would you define your health condition?' is a dependent variable that is represented by five categories: 1 - very good, 2 - good, 3 - solid, 4 - bad, 5 - very bad. The explanatory variables are: legal marital status, level of education, and occupation. The analysis was conducted on a total of 6,524 people aged 30 years or older, who answered the guestion 'How would you define your health condition?' As for marital status, most of the respondents were married: 73.3% (Table 1). Just over half of the surveyed people have secondary education (51.4%) and more than half have one of the following occupations, which have been grouped together: farmer, forester, fisherman, craftsman, machine and plant operator, fitter, driver, and other 'simple' occupations (53.9%). The research was conducted at a level of significance of  $\alpha$ =0.05.

The results of the statistical analysis (Table 2) show that each of the chosen variables has a significant impact on people's perception of their own health at a level of significance of  $\alpha$ =0.05 (p=0.000

**Table 1** Number of surveyed people divided into categories of explanatory variables

	Categories of explanatory variables	N		
		All	Men	Women
Legal marital status	Unmarried	1,020	696	324
	Married	4,783	2,663	2,120
	Widowed	338	82	256
	Divorced	383	159	224
Level of	No education, or partially or fully finished primary education	1,715	886	829
education	Secondary education	3,356	1,982	1,374
	Higher education	1,453	732	721
Occupation	Executives, officials, legislators, experts, artists, engineers, professional associates, and technicians	1,826	879	947
	Administrative workers and traders	1,180	524	656
	Farmers, foresters, fishermen, craftsmen, machine and plant operators, and people with 'simple' occupations	3,518	2,197	1,321

Source: Authors' representation based on data from the Statistical Office of the Republic of Serbia, 2013.

for marital status and level of education, and p=0.027 for occupation).

Certain differences in the experience of one's own health condition can be observed if men and women are considered separately. When it comes to the self-evaluation of health, marital status is the only characteristic that has an impact on both genders (p=0.000), while there are differences for the other two characteristics.

For men, education has an impact on self-evaluation (p=0.001), while for women, the type of occupation is important (p=0.000). In general, research has shown that women are more aware of the importance of health, they know more about their own health and risk factors, they are better informed about healthy lifestyles, and they are more willing to ask doctors and experts for help.

Table 2 The results of three-way ANOVA testing

	All		Mei	n	Won	nen
	F	Sig.	F	Sig.	F	Sig.
Corrected model	32.804	0.000	13.596	0.000	23.417	0.000
Intercept	3,498.319	0.000	1,243.494	0.000	2,510.480	0.000
Marital status (1)	10.947	0.000	8.536	0.000	8.390	0.000
Level of education (2)	3.616	0.027	7.566	0.001	1.878	0.153
Occupation (3)	17.050	0.000	0.985	0.373	18.800	0.000
(1)*(2)	0.308	0.933	1.648	0.130	1.785	0.098
(1)*(3)	0.495	0.813	2,584	0.035	1.596	0.144
(2)*(3)	2.258	0.060	1.241	0.282	1.425	0.223
(1)*(2)*(3)	0.777	0.675	2.506	0.007	0.710	0.716

Source: Researchers' own calculation.

#### 3.1 MARITAL STATUS

Further analysis tested whether there were differences and in which direction between the modalities of each of the variables. This was achieved by including contrasts, which inform of the differences between means of dependent variables and categories of explanatory variables. The results for the marital status variable are shown in Table 3.

Results show that there is a statistically significant difference in the experience of personal health between people who are married and those who aren't (p=0.000). Unmarried people declared they felt healthier than married people, which is shown by the positive value of contrast: 0.314. People who have never been married are more satisfied with their own health condition compared to widowed or divorced people as well. The reason for this might be that unmarried people are usually younger. The average age of unmarried people in this sample is 40.5 years, while the average age for married people is 48.0 years and 48.2 years for divorced people.

Ranked from the most to the least satisfied with their health, first are people

who have never been married before, then people who are married, followed by divorced people, and finally widowed people. This coincides with the increasing average age of each group according to marital status, and in the same order. At the same time, it is in accordance with the fact that the elder population is more prone to chronic illnesses – in many cases comorbidities – which significantly disrupt their daily lives and have a negative effect on their quality of life (Radivojević and Marinković 2017).

Excluding people who have never been married, married people are most satisfied with their health, which confirms the protective role of marriage. A family environment, lower stress levels, and mutual support have a positive impact and lower the tendency towards risky behaviour in individuals (Marinković and Radivojević 2018.) It is considered that living with a partner increases the probability of adopting a healthy lifestyle, which reflects positively on overall health.

The results also show that men who have never been married give higher marks when evaluating their own health condition than other modalities of marital status. The women who are most satisfied

Table 3 Direction of dependence of marital status divided into categories according to the dependent variable 'How would you define your health condition?'

Marital status (simple contrast)		Dependent variable 'How would you define your health condition?'		
		All	Men	Women
Married	Value of contrast	0.314	0.275	0.436
compared to unmarried	p–value	0.000	0.001	0.000
Widowed	Value of contrast	0.663	0.788	0.592
compared to unmarried	p–value	0.000	0.001	0.000
Divorced compared to unmarried	Value of contrast	0.384	0.566	0.402
	p–value	0.000	0.000	0.000

Source: Researchers' own calculation

Note: The reference category refers to unmarried people.

with their health condition are divorced. women. The reason why unmarried women aren't the most satisfied might be psychological. Even though demographic transition causes changes in marital status (Stanković 2015), the ever-present traditional attitude that marriage forms the framework for reproduction causes dissatisfaction with unfulfilled desires and one's own condition

#### 3.2 EDUCATION

Testing for level of education is shown in Table 4. It was determined that there are significant statistical differences when it comes to the perception of one's own health among people with different levels of education. The lowest level of education was taken arbitrarily as a reference category (people with no education or with partially or fully finished primary education). The negative values of contrast of -0.215 and -0.295 shows that people with secondary or higher education feel healthier on average than people from the reference category. This result is in accordance with the fact that people with higher levels of education also have better health education. They have a clearer insight into the importance of preventing certain diseases and making timely visits to the doctor. At the same time, they probably have better-paid jobs and higher standards of living. Therefore, it is presumed that they would visit doctors more often and thus have a better chance of preventing potential diseases. Among the surveyed people, those with secondary and higher education were on average almost 10 vears vounger than those with the lowest education levels. The average age is 45.6 years for the highest level of education, 44.8 years for secondary education, and 54.5 years for the lowest level. It is expected that younger people are objectively healthier than older people: in our analysis, younger people are typically those with higher education and whose perceptions of their own health are better. Poorer perceptions of one's own health among people with a low level of education have been confirmed in research in other countries (Parna and Ringmets 2010).

There is a difference between men and women when it comes to their level of education. Men's level of education affects how they assess their own health;

Table 4 Direction of dependence of level of education divided into categories according to the dependent variable 'How would you define your health condition?'

Level of education (simple contr	Dependent variable 'How would you define your health condition?'			
		All	Men	Women
Secondary education compared to the lowest level of education	Value of contrast	-0.215	-0.519	-0.123
	p–value	0.019	0.001	0.268
Highest education compared to the lowest level of education	Value of contrast	-0.295	-0.552	-0.297
	p–value	0.009	0.000	0.031

Source: Researchers' own calculation.

Note: The reference category is the lowest level of education (no education, or partially or fully finished primary education).

men with a higher level of education feel healthier. This appears not to be true for women: no statistical significance could be determined for the impact of education on their perception of health. However, there are differences between women with different levels of education. A statistically significant difference was noted only between women with the highest level of education and those in the lowest (reference) category of education (p=0.031). The negative value of contrast (-0.297) shows that women with the highest level of education have a better perception of their own health.

#### 3.3 OCCUPATION

In Table 5, the reference category, which was arbitrarily determined, consists of people from the first category of occupations. The occupations that fall into that group are executives, officials, legislators, experts, artists, engineers, professional associates, and technicians. The results show that when it comes to the perception of one's own health, there is a statistically significant difference only between the first and the third category (the third category consists of farmers,

foresters, fishermen, craftsmen, machine and plant operators, and people with simple occupations). The value of contrast is positive 0.381, which shows that people from the reference category feel healthier. It can be presumed that this statistically significant difference between the first and third category can be explained by the nature of the occupations in each group. Namely, the third group (farmers, foresters, fishermen, etc.) consists of jobs that require greater physical effort, often combined with poor working conditions, greater strain on the body, and an objectively worse material position, which affects the deterioration of one's condition with age. At the same time, this group contains the oldest people on average (50.4 years) compared to those in the second (42.9 years) and first occupational categories (44.9 years).

The same conclusion as for overall sample group could be made for each gender separately.

The simultaneous inclusion of two variables – level of education and occupation – in the analysis is presented in Graph 1 for the male population and Graph 2 for the female population. The results show that among men, the best evaluation of

Table 5 Direction of dependence of occupation divided into categories according to the dependent variable 'How would you define your health condition?'

Occupation (simple contrast)		Dependent variable 'How would you define your health condition?		
		All	Men	Women
Second category of occupations compared to the first category of occupations	Value of contrast	-0.099	0.196	-0.196
	p–value	0.327	0.235	0.091
Third category of occupations compared to the first category of occupations	Value of contrast	0.381	0.258	0.440
	p–value	0.000	0.040	0.000

Source: Researchers' own calculation.

Note: The reference category is the lowest level of education (no education, or partially or fully finished primary education).

health was given by people whose occupation is from the second category (administrative workers and traders) with the highest level of education. At the same time, men whose occupation is from that same category but whose level of education is the lowest gave the worst evaluation of their health. The results for women are different. Administrative workers (and similar occupations) gave the best evaluation of their own health, no matter their level of education. It cannot be assessed to what extent this perception of one's own health is influenced by random variations, or at all. However, this category of occupations usually doesn't require excessive physical labour, nor does it mean working in poor conditions, unlike the occupations from the third category. At the same time, it typically requires a different level of responsibility (usually lower) than the occupations from the first category, which could explain this result.

Similarities between men and women in the self-evaluation of one's own health are noted among people who perform the 'simplest' occupations from the third category. For both genders, the poorest self-evaluation was given by people with the lowest levels of education, which is a trend that has been confirmed by other research (Parna and Ringmets 2010). At the same time, many occupations from the third category often require great physical effort and objectively have a bad influence on the perception of one's own health. For the first category of occupations (those that usually require the highest level of education), the best evaluations were given by men and women with the highest level of education. Research on people's self-evaluation of their own health in 17 European countries from 1990 to 2010 shows that in all of the examined countries, the worst self-evaluations were given by people with lower levels of education and manual workers (Hu et al. 2016).

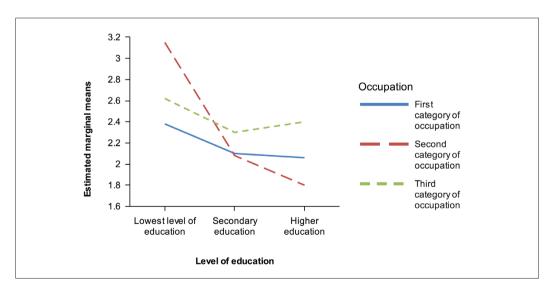


Figure 1 Relationship between the dependent variable 'How would you define your health condition?' and level of education in relation to occupation – men.

Source: Researchers' own calculation.

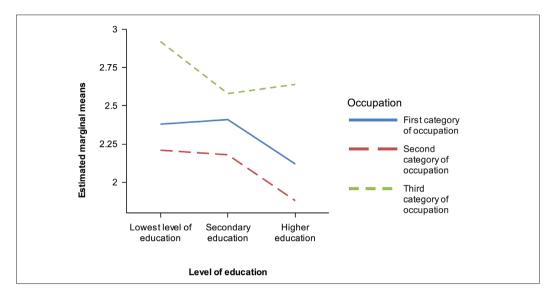


Figure 2 Relationship between the dependent variable 'How would you define your health condition?' and level of education in relation to occupation – women.

Source: Researchers' own calculation.

### 3.4 PERCEPTION OF HEALTH STATUS OF PEOPLE WHO ARE 60 YEARS OLD OR **OLDER**

Many elderly people declared they felt bad (36.8%), while 10.2% declared they felt very bad, which was expected. The percentage of those who said they felt solid was 35.5%, while 15.6% felt good and only 1.8% said they felt very good (Statistical Office of the Republic of Serbia, 2013). Research in general shows that elderly people perceive their health as bad or very bad more often than young people do. This applies to women to a greater extent than to men (Kaleta et al. 2009).

For people who are 60 years old or older, the only factor that affects the subjective experience of health is a person's occupation (p=0.013). There are also differences in the experience of health sta-

Table 6 Direction of dependence of occupation divided into categories according to the dependent variable 'How would you define your health condition?' – 60 years and older

Occupation (simple contrast)		Dependent variable 'How would you define your health condition?
Second category of occupations compared to the first category of occupations	Value of contrast	0.325
	p–value	0.256
Third category of occupations compared to the first category of occupations	Value of contrast	0.666
	p–value	0.001

Source: Researchers' own calculation.

*Note*: The reference category is the first category of occupations.

tus between people from different categories of occupations.

A statistically significant difference in terms of the subjective experience of one's own health was confirmed between the first and third occupational categories. The value of the contrast is positive 0.666, which indicates that people who are 60 years old or older feel healthier if their occupation is from the first category, rather than the third. The poorer self-assessment of health among people with occupations in the third category is explained by long-term exposure to the physical strains characteristic of this type of occupation. These have a negative impact on physical health and also increase the likelihood of incapacity and disability.

Graph 3 shows how people who are 60+ years old experience their own health, depending on their marital status and level of education. Here, as before, the results show that the best health evaluations were given by those with the highest level of education, regardless of their marital status.

Among people with secondary or higher education, the people who feel the healthiest are those who work as administrative workers, or in service and trade occupations. On average, people whose occupation is from the first category (executives, officials, legislators, experts, artists, engineers, professional associates, and technicians) felt a bit less healthy, whilst those whose occupation is from the third category felt considerably worse than people whose occupations are from one of the first two categories (Graph 4).

An interesting order can be noticed when analysing the category of people with no education or primary education. Among them, the people who feel the healthiest are those whose occupation is in the first category. At the same time, there are no considerable differences in personal health evaluation between the people whose occupations are from the second or third category.

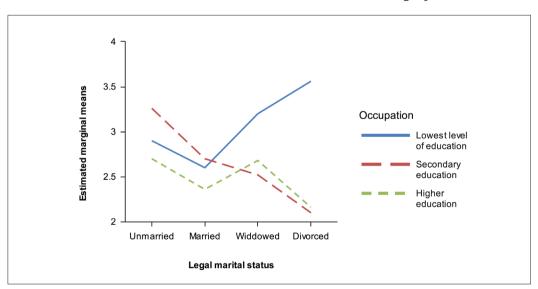


Figure 3 Relationship between the dependent variable 'How would you define your health condition?' and marital status in relation to level of education – 60 years and older.

Source: Researchers' own calculation.

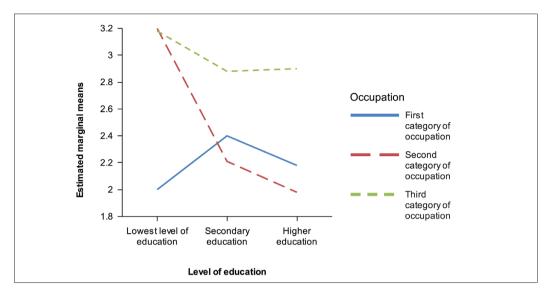


Figure 4 Relationship between the dependent variable 'How would you define your health condition?' and level of education in relation to occupation – 60 years and older. Source: Researchers' own calculation.

#### 5 CONCLUSION

Health self-evaluation, an important indicator used in epidemiological research, was used in this analysis to compare the health status of Serbian citizens with different demographic and socioeconomic characteristics. Marital status, level of education, and occupation were tested.

The results of the statistical analysis showed that each of the selected variables significantly affects people's subjective experience of their own health, which confirmed the first research hypothesis.

When it comes to marital status, the results of the analysis showed that unmarried people gave the best evaluation of their own health, which is a reflection of objectively better health given their lower average age.

When it comes to education, a better perception of health is observed in people with secondary or higher education than those with the lowest level of education. This result is explained by their higher level of health education, which implies that they understand the importance of prevention and avoiding risk factors. The occupation that a person currently does or has performed during their lifetime also plays a role in their health self-evaluation. Analysis showed that people whose occupations are from the first category (executives, officials, legislators, experts, artists, engineers, professional associates, and technicians) gave the best evaluation of their own health. This category of occupations requires a higher level of education, but also enables a higher living standard and position in society, which are important for the attitude towards one's own health.

The research has partially confirmed the hypothesis that health self-evaluation differs between men and women for all three characteristics. That is because the differences appear only for two characteristics: level of education and occupation. For men, education has an impact on their health self-evaluation, while for women the type of occupation makes an impact. Marital status is the only characteristic that affects health self-evaluation for both genders.

One peculiarity in how Serbia's elderly people (60+) perceive their own is reflected in the fact that occupation is the only factor that affects their personal experience of their health status. Obviously, this is the demographic of the population that is objectively most likely to develop symptoms that might indicate deteriorating health. It seems that in such situations, the examination of possible causes of these symptoms, even false ones, is most often associated with the type and difficulty of the work the person performed during their career, or the risks that the occupation itself entails. A fear of illness or the incapacity to have a normal everyday life is quite common in people. There is no proof that people's level of education in any way affects their fear of illnesses. The education level people achieve is important in prevention and timely response to preserve their physical and mental health and social wellbeing.

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#### REFERENCES

- Bećković D., Milovanović S., Maksimović, M., & Latas. M. (2000). Stres i mentalni zamor u radnom procesu kao problem industrijski razvijenih zemalja. Engrami, 22 (1), 39–64. https://scindeks-clanci.ceon.rs/data/ pdf/0351-2665/2000/0351-26650001039B.pdf
- De Bruin A., Picavet HSJ., & Nossikov A., (1996). Health interview surveys. Towards international harmonization of methods and instruments. WHO Regional Publication European Series, No 58. https://www.euro.who.int/ data/assets/pdf file/0017/111149/E72841.pdf
- Efron, B. & Tibshirani, R.(1993). An Introduction to the Bootstrap, SPRINGER-SCIENCE-BUSINESS MEDIA, B.V. http://www.ru.ac.bd/stat/wp-content/uploads/ sites/25/2019/03/501 02 Efron Introduction-tothe-Bootstrap.pdf
- European Commission (2004). Strategy on European Community Health Indicators (ECHI) - the 'Short List', Luxembourg: European commission. http:// ec.europa.eu/health/ph information/documents/ ev20040705 rd09 en.pdf.
- Fienberg, S.E., Loftus, E.F. & Tanur, J. M. (1985). Cognitive aspects of health survey methodology: an overview. The Milbank Memorial Fund Quarterly. Health and Society, 63 (3), 547-564. https://doi. org/10.2307/3349847
- Goodwin, R. & Engstrom, G. (2002). Personality and the perception of health in the general population. Psychological medicine, 32 (2), 325–332. https://doi. org/10.1017/S0033291701005104
- Hu, Y., van Lenthe, F.J., Borsboom, G.J., Looman, C.W., Bopp, M., Burström, B., ...&Mackenbach, J. (2016). Trends in socioeconomic inequalities in selfassessed health in 17 European countries between 1990 and 2010. J Epidemiology Community Health, 70 (7), 644–652. https://doi.org/10.1136/jech-2015-
- Institute for public health of Serbia (2013). Zdravstveno statistički godišnjak Republike Srbije. https://www.batut.org.rs/download/publikacije/ pub2013.pdf, accessed October 2nd, 2020.

- Jylhä M., Guralnik JM., Ferrucci L., Jokela J. & Heikkinen E. (1998). Is self–rated health comparable across cultures and genders? The Journals of Gerontology: Series B, 53B(3), 144-152.
  - https://doi.org/10.1093/geronb/53B.3.S144
- Kaleta, D., Polanska, K., Dziankowska–Zaborszczyk, E., Hanke, W. & Drygas, W. (2009). Factors influencing self–perception of health status. Central European journal of public health, 17 (3), 122–127.
- Kovačić, Z. (1994). Multivarijaciona analiza. Beograd: Centar za izdavačku delatnost Ekonomskog fakulteta Univerziteta u Beogradu
- Marinković, I., & Radivojević, B. (2018). Mortality by marital status in the Republic of Serbia. Zbornik Matice srpske za društvene nauke, 167, 597–606. https://doi.org/10.2298/ZMSDN1867597M
- Omran, A.R. (1971). The epidemiologic transition: a theory of the epidemiology of population change. The Milbank Memorial Fund Quarterly, 39(4), 509– 538.
- Parna, K. & Ringmets, I. (2010). Comparison of socioeconomic differences in self–perceived health in Estonia and Finland. Scandinavian journal of public health, 38 (2), 129-134.
- Prica, I., Chroneos Krasavac, B., Petrović, M. & Čolić, L. (2017). Primena tehnika multivarijacione analize u marketinškim istraživanjima. Beograd: Centar za izdavačku delatnost Ekonomskog fakulteta Univerziteta u Beogradu
- Radivojević, B., & Marinković, I. (2017). Recent Changes in Mortality of Serbia. In V. Janeska & A. Lozanoska (Eds.), The Population of the Balkans at the dawn of the 21st Century (pp. 99–118). Skopje: Ss. Cyril and Methodius University-Institute of Economics
- Ross, C. E., & Van Willigen, M. (1997). Education and the subjective quality of life. Journal of Health and Social Behavior, 38 (3), 275-297.
- Stanković, B. (2015). Bračnost stanovništva. In V. Nikitović (Ed.), Populacija Srbije početkom 21. veka (pp. 194–218). Beograd: Republički zavod za statistiku, p. 194-218.

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## Uticaj sociodemografskih karakteristika na samoprocenu zdravlja stanovništva Srbije

#### Prošireni apstrakt

Percepcija sopstvenog zdravlja jeste dobar izvor informacija o zdravstvenom stanju i često se koristi u kombinaciji sa objektivnim pokazateljima u oceni zdravlja na nacionalnom nivou. U upotrebi je još od 1950-ih godina u zdravstvenim i gerontološkim istraživanjima. Odnosi se na individualnu evaluaciju sopstvenog zdravlja u celini, kao i njegovih pojedinih aspekata, tj. fizičkog, psihičkog i socijalnog blagostanja. Samoprocena zdravlja preporučena je od strane SZO i Komisije EU kao globalni pokazatelj zdravstvenog stanja stanovnika. Rezultati anketnih istraživanja o samoproceni sopstvenog zdravstvenog stanja veoma su korisni u kreiranju i praćenju zdravstvene politike.

U radu je analiziran uticaj različitih demografskih i socioekonomskih karakteristika na samoprocenu zdravlja stanovništva Srbije. Analizirani su bračno stanje, nivo obrazovanja i zanimanje. Korišćeni su podaci dobijeni anketom pod nazivom "Survey on income and living conditions", koju je sproveo Republički zavod za statistiku Srbije tokom 2013. godine. Neophodni podaci za analizu dobijeni su na zvaničan zahtev upućen Zavodu za statistiku, s obzirom na to da ta vrsta podataka nije javno dostupna. Testiranje je sprovedeno metodom three way ANOVA.

Rezultati statističke analize pokazali su da svako od izabranih obeležja značajno utiče na subjektivni doživljaj zdravstvenog stanja pri nivou značajnosti od p=0,05. Posmatrano prema polu, jedino bračno stanje ima uticaj na samoprocenu zdravlja kod oba pola. Kod muškaraca je to još i obrazovanje, a kod žena vrsta zanimanja. Po pitanju bračnog stanja neoženjeni/neudate najpovoljnije su ocenili svoje zdravstveno stanje, što je delom i posledica objektivne činjenice da je u pitanju mlađe stanovništvo, koje je, po pravilu, i zdravije. Kod obrazovanja, bolja percepcija zdravlja zabeležena je kod osoba sa srednjim i najvišim nivoima obrazovanja. Rezultat je u skladu sa činjenicom da osobe sa višim stepenom obrazovanja jesu zdravstveno obrazovanije. One imaju jasniji uvid u značaj naročito prevencije određenih bolesti i pravovremenog odlaska kod lekara. Istovremeno, pretpostavka je da su i na pozicijama bolje plaćenih poslova i sa višim životnim standardom. S tim u vezi stoji i rezultat koji se tiče zanimanja i njegovog uticaja na percepciju sopstvenog zdravlja. Lica koja obavljaju ili su tokom svog života obavljala zanimanja iz grupe "rukovodioci, funkcioneri, zakonodavci, stručnjaci, umetnici, inženjeri, stručni saradnici i tehničari", najbolje ocenjuju svoje zdravstveno stanje, jer su u pitanju zanimanja koja uglavnom zahtevaju i viši nivo obrazovanja. Specifičnost u percipiranju sopstvenog zdravlja kod starije populacije Srbije (60+) ogleda se u tome što je zanimanje jedini faktor koji je od uticaja za subjektivni doživljaj zdravstvenog stanja. U pitanju je deo populacije kod kojeg se u većoj ili manjoj meri i objektivno javljaju simptomi koji mogu ukazivati na pogoršanje zdravlja, a mogući uzroci najčešće se povezuju sa vrstom i težinom posla koji je lice obavljalo tokom života ili sa rizicima koje određeno zanimanje podrazumeva.

#### Kliučne reči:

sociodemografske karakteristike, samoprocena zdravlja, stanovništvo Srbije, three way ANOVA.