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THE RELATIONSHIP BETWEEN PHYSICAL ACTIVITY AND SATISFACTION WITH ONE'S PHYSICAL APPEARANCE

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Abstract

The main goal of this research is to determine to what degree people engaged in physical activity are actually satisfied with their physical appearance. The goal is also to investigate whether there are differences in the examined variables, concerning different demographic characteristics such as gender, age, education and income. The research was conducted online, using a Google questionnaire. The sample consists of 585 respondents. Data was processed in the SPSS programme. Due to the fact that the distribution of scores on the registered variables deviates statistically significantly from the norm, non-parametric techniques were applied. The results show that people who are most satisfied with their physical appearance are also the most physically active and committed to doing more intensive work on their body and appearance (ρ=0.473; $p<0.01$). Women (U=24470.500; $p<0.05$), people with higher incomes (χ^2=8.102; $p<0.05$), and younger people (χ^2=20.533; $p<0.01$) are the most physically active and committed to their physical appearance, while there are no statistically significant differences in scores when it comes to physical activity and commitment to physical appearance ($p>0.05$) between groups of people with different levels of education. The implications of this research lie in the identification of the part of the population which is not physically active enough, which may provide the state and its agencies the opportunity to more actively promote various types and aspects of physical activity, in order to raise awareness about importance of physical activity and the benefits it generally provides.

Key words: physical activity, satisfaction with physical appearance, commitment to physical appearance, basic demographic variables.

ОДНОС ИЗМЕЂУ ФИЗИЧКЕ АКТИВНОСТИ И ЗАДОВОЉСТВА ФИЗИЧКИМ ИЗГЛЕДОМ

Апстракт

Основни циљ овог истраживања је да утврди колико су људи који се баве физичком активношћу заправо задовољни својим физичким изгледом. Такође, истра-

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жује се да ли постоје разлике у испитиваним варијаблама у односу на демографске карактеристике као што су пол, старост, образовање и приход. Истраживање је спроведено онлајн помоћу Гугл упитника. Узорак се састоји од 585 испитаника. Подаци су обрађени у СПСС програму. С обзиром да дистрибуција скорова на мереним варијаблама статистички значајно одступа од норме, примењене су непараметријске технике: Спирманов коефицијент корелације, Ман-Витни У тест и Крускал-Волисова анализа варијансе. Резултати су показали да су особе најзадовољније својим физичким изгледом уједно и физички најактивније и посвећене свом физичком изгледу (ρ=0,473; p<0,01). Особе женског пола (U=24470.500; p<0.05), особе са вишим примањима (χ^2=8.102; p<0.05) и особе млађе животне доби (χ^2=20.533; p<0.01) су физички активније и посвећеније свом физичком изгледу, док се разлике у степену образовања нису показале статистички значајним када је физичка активност и посвећеност физичком изгледу у питању (p>0.05). Импликације истраживања се огледају у идентификацији дела становништва које није довољно физички активно, па се тиме пружа могућност активније промоције различитих видова физичке активности од стране државе и њених органа, са циљем подизања свести о важности физичке активности и вишеструке користи које она пружа.

Кључне речи: физичка активност, задовољство физичким изгледом, посвећеност физичком изгледу, основне демографске варијабле.

INTRODUCTION

Satisfaction with one's physical appearance has also drawn attention to and highlighted the fact that people need to lead a healthy lifestyle and get all the necessary nutrients, such as vitamins, minerals, and amino acids, in order to be more satisfied with their physical appearance and avoid the risks associated with leading an unhealthy lifestyle (Marinković & Galjak, 2021). In addition to proper nutrition, physical activity is necessary in order to improve or reflect good health, i.e. lead a healthy lifestyle. This is necessary for both children and young people, to whom physical activity in itself brings a certain kind of satisfaction, and for middle-aged people who are going through a specific kind of crisis associated with the aging process (Čolović, 2014; Čolović 2017; Čolović & Stojković, 2017; Čolović & Mitić, 2023a), as well as the elderly, in whose case it certainly contributes to better functioning on the mental, emotional, and psychophysical level, preventing various types of health problems and raising their functionality and quality of life. Physical activity of appropriate and adequate intensity and dynamics is recommended to everyone in general, regardless of age, because everyone can have benefit from it (Čolović et al., 2021).

Since satisfaction with one's physical appearance builds and changes throughout life, it is important to know in which period these changes are most intense and important for people in general, as well as whether there are differences between men and women. Thus, althought physical activity is good in general, it is specially recommended for children in order to develop properly and focus on a healthy lifestyle, and to prevent the development of chronic diseases (Hallal et al., 2006). Boys are

generally more physically active than girls, at 23.8% versus 15.4% (Guthold et al., 2010), and this trend remains with adolescents (Landis et al., 2007), and into old age.

There is ample scientific evidence that health improves in all aspects with a greater or lesser intensity of physical activity. Physical activity also enables bone strengthening and muscle development, and contributes to maintaining good physical health (Čolović & Mitić, 2022; Santos et al., 2017). In addition to physical health, physical activity is also very important for mental health, because it can reduce the symptoms of anxiety and depression (Saxena et al., 2009). Regular physical activity reduces the risk of chronic diseases and premature death by 20% to 30% (Warburton & Bredin, 2016). Thus, physical activity reduces the risk of diabetes, high blood pressure, heart disease, asthma and arthritis (Humphreys et al., 2013). Physical activity in women reduces the risk of cardiovascular disease from 28% to 58%, diabetes from 14% to 46%, and colon cancer from 31% to 46% (Brown et al., 2005).

Any physical activity, even if it is of the lowest intensity and scope, is better than physical inactivity and a passive lifestyle (Powell et al., 2011). Moderate physical activity is especially important and represents, as mentioned above, one of the optimal ways of coping and overcoming the crisis of middle age (Čolović, 2017; Čolović & Stojković, 2017; Čolović & Mitić, 2023a). According to the World Health Organization, in 2009, physical inactivity was identified as the fourth leading cause of mortality. Therefore, the World Health Organization recommends a minimum of 150 minutes of moderate physical activity, or 75 minutes of intense physical activity per week for adults (Romas & Sharma, 2017).

The main goal of this research is to determine to what degree people who are engaged in physical activity and are at the same time dedicated to their physical appearance are actually satisfied with their physical appearance. It is also investigates whether there are differences in the examined variables concerning demographic characteristics, such as gender, age, education, and income, in the different group of respondents. The basic hypothesis arising from this study is that people who are physically active and committed to their physical appearance are generally more satisfied with their physical appearance (X1). Based on the basic hypothesis, specific hypotheses were set too. It is assumed that there are differences in the level and commitment to physical activity, as well as satisfaction with physical appearance between people of different gender (X2), incomes (X3), level of education (X4), and age (X5).

Literature Review

Men spend more time on physical activity than women, according to research (Stamatakis & Chaudhury, 2008), which is contrasted with research in Australia, whose results show that women are more physically active and committed to their physical appearance (Vaughan et al., 2008),

along with female students (Booth et al., 2002). However, when it comes to walking as a type of physical activity, the results of research (Hansen et al., 2012) show that men and women walk approximately the same, and that the level of physical activity is constant over the years, while it slightly decreases after the age of 65. Walking, alongside cycling, is one of the forms of active transport due to which the inhabitants of Europe have less problems with obesity compared to the inhabitants of the USA, Canada and Australia (Bassett et al., 2008). Physical activity in leisure time is one of the key factors in the fight against obesity, according to research conducted in the United States (Harper & Lynch, 2007). Men who committed to at least one physical activity 3 to 5 times during the week significantly reduced their risk of becoming overweight and obese, and were more satisfied with their physical appearance than those who did not have any physical activity (Biernat & Tomaszewski, 2015). Older people need to be physically active in order to maintain their vitality for as long as possible and have more energy for the daily chores and responsibilities they perform. However, the results of a number of studies suggest that commitment to physical activity decreases with age (Hallal et al., 2012; Sullivan et al., 2011), although, on the other hand, daily physical activity undoubtedly contributes to a longer life and better health (Matthews et al., 2007).

According to research conducted in the United States (Ceña et al., 2011), socio-demographic characteristics such as older age, obesity, and poorer health are associated with reduced physical activity. In contrast, socio-demographic factors such as higher income, level of education, good health, and a job that requires good physical fitness are positively associated with a commitment to physical appearance and physical activity (Stamatakis & Chaudhury, 2008). However, the results of research conducted in Switzerland (Guessous et al., 2014), as well as in Cameroon (Assah et al., 2015), indicate that people with a lower level of education are more physically active compared to those with a higher level of education. Also, the results of research conducted in China indicate that incomes and range of education do not affect the level of physical activity and satisfaction with physical appearance (Chen et al., 2015). These results are not in line with some research, according to which education (Azagba & Sharaf, 2014; Borodulin et al., 2012;), and income (Cerin & Leslie, 2008; Ord et al., 2013) are very important factors for commitment to physical appearance, and higher level of physical activity in general. Another research conducted in Australia coincides with the aforementioned results of previous research, as in Australia people with lower levels of education and lower income are less committed to and satisfied with their physical appearance (Kavanagh et al., 2005).

It is interesting to note that people who do not buy organic food are generally obese compared to those who buy organic food. According to one research, 31% of people who do not buy organic foor are moderately obese, while 7% are overweight, compared to people who buy organic food, of whom only 10% moderately or excessively obese (Schifferstein &

Ophuis, 1998). People who are most physically active decide to buy organic food primarily because of better form, health (Čolović & Mitić, 2021; Mitić & Čolović, 2022a; Mitić & Čolović, 2022b; Mitić & Čolović, 2023b) and weight loss, and they are more satisfied with their physical appearance compared to those who do not buy organic food (Nie & Zepeda, 2011).

METHODOLOGY

This research was conducted online, using a Google questionnaire which has already been used, and whose metric characteristics have proven to be adequate in related research (Čolović and Mitić, 2021; Čolović et al., 2021). The authors of this questionnaire are also the authors of this paper. The Organic Food questionnaire was used. It consists of 10 multiple choise questions, and examines the presence and intensity of main factors influencing the decision to purchase organic food, and the biggest obstacles to buying it, as well as a certain number of items related to the intensity and frequency of physical activity and satisfaction with one's own physical appearance. Cronbach's alpha coefficient ranged between 0.71 and 0.89 in previous research, while its value in the current research was 0.82. The questionnaire was sent to the email addresses of 900 respondents. The criteria for the selection of respondents for this research from the existing database containing over 2000 respondents referred to the fact that the respondents were adults divided into 4 age categories, according to certain psychophysical developmental changes that are significant for different periods of life: early adulthood (ages 18 through 24), adult respondents (ages 25 through 39), middle-aged people (ages 40 through 64), older respondents (over 65 years of age). One part of the respondents did not answer, or did not fill in the questionnaire completely, so they were excluded from the sample being processed. A fully completed questionnaire was returned by 585 respondents, which equal 65% of the originally planned number of respondents, and represent the final sample in current research. Respondents have different socio-demographic characteristics such as gender, age, education and income. Data was processed in the SPSS programme. Due to the fact that the distribution of scores on the registered variables deviates statistically significantly from the norm, non-parametric techniques were applied. The obtained values of skunis (Sk=445), as a measure of the symmetry of distribution, and kurtosis (Ku=-733), as a measure of convexity, i.e. flatness of the distribution of scores, show that the distribution of scores on the registered variables is not normal. To test the hypotheses, the following were used in addition to descriptive statistics: Spearman's correlation coefficient, for determining the relationship between two variables; Mann-Whitney U test, in order to determine the differences between two groups of subjects; and the Kruskal-Wallis analysis of variances, in order to test the differences in scores in a larger number of groups of subjects.

RESULTS

This part of the paper presents the results of this research, which are discussed in more detail in the next section.

Table 1. Statistics of phisical activity and satisfaction with physical apperance

		Physical activity	Satisfaction with physical appearance
N	Valid	585	585
	Missing	0	0
AS		3.5761	2.4103
Median		4.0000	2.0000
SD		1.02274	1.18317
Variance		1.046	1.400
Skewness		-.592	.445
Std. Error of Skewness		.101	.101
Kurtosis		.061	-.733
Std. Error of Kurtosis		.202	.202
Range		4.00	4.00
Min.		1.00	1.00
Max.		5.00	5.00

Table 2. Descriptive statistics

	Frequency	Percent
Never	163	27.9
Once a month	163	27.9
Once a week	146	25.0
2-3 times a week	82	14.0
Daily	31	5.3
Total	585	100.0

Table 3. Correlations – relationship between commitment and satisfaction with physical appearance

		Commitment to physical appearance	Satisfaction with physical appearance
Commitment to physical appearance	*Ro*	1.000	.473**
	Sig.		.000
	N	585	585
Satisfaction with physical appearance	*Ro*	.473**	1.000
	Sig.	.000	
	N	585	585

Table 4. Result of Mann-Whitney U test - significance of gender differences

	Commitment to physical appearance	Satisfaction with physical appearance
Mann-Whitney U	24470.500	28041.500
Sig.	.010	.734

Table 5. Gender differences in commitment and satisfaction with physical appearance

	Gender	N	MR	∑R
Commitment to physical appearance	Male	124	259.84	32220.50
	Female	461	301.92	139184.50
	Total	585		
Satisfaction with physical appearance	Male	124	288.64	35791.50
	Female	461	294.17	135613.50
	Total	585		

Table 6. Result of Kruskal-Wallis test - significance of obtained differences

	Commitment to physical appearance	Satisfaction with physical appearance
χ^2	20.533	8.102
df	2	2
Sig.	.000	.017

Group variable: *Income*

Table 7. Income differences in commitment and satisfaction with physical appearance

	Income	N	MR
Commitment to physical appearance	Below average (lower than 500 euros)	45	196.66
	Average (between 500 and 1000 euros)	490	297.23
	Above average (above 1000 euros)	50	338.22
	Total	585	
Satisfaction with physical appearance	Below average (lower than 500 euros)	45	243.34
	Average (between 500 and 1000 euros)	490	293.03
	Above average (above 1000 euros)	50	337.41
	Total	585	

Table 8. Result of Kruskal-Wallis test – significance of obtained differences

	Commitment to physical appearance	Satisfaction with physical appearance
χ^2	2.052	5.164
df	4	4
Sig.	.726	.271

Group variable: *Education*

Table 9. Educational differences in commitment and satisfaction with physical appearance

	Education	N	MR
Commitment to physical appearance	Primary school	6	299.00
	High School	213	289.38
	High school/vocational studies	59	289.75
	Faculty/master studies	290	293.05
	PhD	17	346.79
	Total	585	
Satisfaction with physical appearance	Primary school	6	295.42
	High School	213	283.65
	High school/vocational studies	59	321.74
	Faculty/master studies	290	290.37
	PhD	17	354.44
	Total	585	

Table 10. Result of Kruskal-Wallis test – significance of obtained differences

	Commitment to physical appearance	Satisfaction with physical appearance
χ^2	10.160	9.349
df	4	4
Sig.	.039	.047

Group variable: *Age*

Table 11. Differences in commitment and satisfaction with physical appearance in relation to age of respondents

	Age	N	MR
Commitment to physical appearance	18 through 24	110	304.79
	25 through 39	284	294.98
	40 through 64	187	284.29
	Over 65 years	4	235.13
	Total	585	
Satisfaction with physical appearance	18 through 24	110	304.36
	25 through 39	284	290.64
	40 through 64	187	277.94
	Over 65 years	4	255.63
	Total	585	

DISCUSSION

Table 1 presents the descriptive statistics measures for major variables – *Physical activity* and *Satisfaction with physical appearance*, while Table 2 presents the registered frequency of *Phisical activity*.

The obtained results confirm our first hypothesis, and suggest that there is a moderate correlation between commitment and the intensity of physical activity with satisfaction with one's own physical appearance (Table 3). *Intensity of physical activity* is measured through the regisetred frequency in its performing, or more precisely: daily performance, performing two to three times a week, performing once a week, performing once a month, and never performing physical activity.

This means that people who are more physically active and more committed to their physical appearance are also more satisfied with it.

In the following text, the results of specific hypotheses are presented, i.e. the differences that exist in the main variables when different groups of respondents are taken into account.

The results show that people who are dedicated to their physical appearance are mostly or completely satisfied with their physical appearance. This means that people who spend more time on their physical activities are most satisfied with their physical appearance. This should not be a surprise due to the fact that physical activity, according to the results of some studies, contributes to general health (Humphreys, McLeod, & Ruseski, 2013), as well as to better physical appearance (Nie & Zepeda, 2011).

There are statistically significant differences in scores between men and women when it comes to the level of and commitment to physical appearance ($U = 24470.500$; $p < 0.01$), but not when it comes to satisfaction with physical appearance ($U = 28041.500$; $p > 0, 01$) (Table 4).

The data shows that women are more committed to physical appearance (MR = 301.92) compared to men (MR = 259.84). However, there were no statistically significant differences obtained in scores when it comes to satisfaction with physical appearance, i.e. there are no gender differences in satisfaction with physical looks (Table 5). This partially confirmed the second hypothesis.

The results of this study are consistent with the results of research conducted in Australia, according to which women are more committed and physically active than men (Booth et al., 2002; Vaughan et al., 2008). However, our results are not consistent with other research (Ceña et al., 2011; Hallal et al., 2012; Sullivan et al., 2011), according to which men are more physically active and committed to physical appearance in relation to women, or the research (Hansen et al., 2012) according to which both genders have approximately the same physical commitment.

When it comes to the differences that exist in the commitment and intensity of physical activity ($\chi^2 = 20.533$; $p < 0.01$), as well as satisfaction

with physical appearance ($\chi^2 = 8.102$; $p < 0.05$) between groups of respondents with different incomes, they were at a statistically significant level (Table 6).

The results show that both the commitment to physical appearance and the intensity of physical activity, as well as the satisfaction with one's own physical appearance increase with the increase in income. Thus, people with the highest income are most committed to physical appearance, and are, at the same time, most satisfied with their physical appearance (Table 7).

This can be explained by the fact that people with the highest income can set aside more money to buy healthier and better quality food, which is necessary for the body to receive all the necessary nutrients. Besides, for some physical activities, it is necessary to set aside a certain amount of money both for membership fees and for the purchase of appropriate equipment, and this is certainly easier for people with higher incomes.

The results are not in line with certain research results (Hallal et al., 2012), according to which people in the highest income countries are the least physically active, or with researchers (Chen et al., 2015) according to whom income has no effect on physical activity, but are consistent with the research (Borodulin et al., 2012; Cerin & Leslie, 2008; Ord et al., 2013; Stamatakis & Chaudhury, 2008) according to which people with higher incomes are more committed to their physical appearance.

The magnitude of the obtained differences, measured by the Kruskal-Walis test, were not statistically significant, neither in terms of intensity and commitment ($\chi^2 = 2.052$; $p > 0.05$) nor in terms of satisfaction with physical appearance, when it comes to the education of the respondents ($\chi^2 = 5.164$; $p > 0.05$) (Table 8).

The results show that education has no effect on the level of physical activity, i.e. commitment, or on one's satisfaction with physical appearance (Table 9). Thus, persons with higher and lower levels of education are approximately equally dedicated to and satisfied with their physical appearance.

The obtained results are consistent with some research (Chen et al., 2015; Vaughan et al., 2008), while not consistent with other research (Azagba & Sharaf, 2014; Borodulin et al., 2012), according to which a higher level of education is associated with greater commitment to and satisfaction with physical appearance. Also, the results are not in line with research (Assah et al., 2015; Guessous et al., 2014) according to which people with a lower level of education are more committed to and more satisfied with their physical appearance.

The size of the obtained differences in scores, measured by the Kruskal-Wallis test, was at a statistically significant level when it comes to commitment to physical activity ($\chi^2 = 10.160$; $p < 0.05$), as well as when it comes to satisfaction with physical appearance ($\chi^2 = 9.349$; $p < 0.05$) in relation to the age of the respondents (Table 10).

The results show that with age, commitment to physical appearance decreases (Table 11). The youngest respondents (ages 18 through 24) are most committed to their physical appearance. One of the reasons may be the fact that they have more free time compared to other groups of respondents, given that a large number of respondents of this age are not employed and not married. Also, a possible reason may be the tendency to achieve the best possible physical apperance or outlook in order to attract a better partner. The oldest people in the sample, i.e. respondents who are older than the age of 65, are the least dedicated to their physical appearance.

The results are consistent with research according to which physical activity and commitment to physical appearance, as well as one's satisfaction with it, decrease as age increases (Hallal et al., 2012; Sullivan et al., 2011; Vu et al., 2020), and partly in accordance with another study according to which physical activity and commitment significantly decrease only for those aged 65 or older (Hansen et al., 2012).

CONCLUSION

This research confirms that people who are most satisfied with their physical appearance are also the most physically active and committed to more intensive work on their body and appearance. Some specifics related to certain groups were identified during the analysis of the differences of various groups of respondents in relation to the level of physical activity and commitment to physical appearance, as well as one's satisfaction with physical appearance, according to certain socio-demographic variables.

Thus, it was shown that there are differences in the level of physical activity, and commitment to physical appearance and work on oneself, as well as in general satisfaction with one's physical appearance between groups of respondents of different ages and incomes. Also, women, higher-income earners, and younger adults (18-24 years) are more physically active and committed to their physical appearance. Women are generally more committed to self-employment and physical activity, while there are no differences when it comes to satisfaction with their physical appearance, as compared to men. On the other hand, no differences were obtained in scores between groups of respondents of different levels of education.

The results of this research can be useful for companies and entrepreneurs who provide a wide range of services to customers related to various types of physical activity, such as gyms, spas, fitness clubs, swimming pools, and the like, and can help them better adapt their offer to customers. Namely, based on basic and easily accessible socio-demographic characteristics, they can see which part of the population represents their target group and adequately focus their marketing activities and promotion on them.

It would be interesting to conduct a study that would include people from countries in the region, and would examine the extent to which neighbouring nations are committed to their physical appearance and which demographic characteristics have the greatest impact on commitment to physical appearance.

Some further research could also include other socio-demographic characteristics, in order to identify which other characteristics have an effect on physical activity or satisfaction with physical appearance in humans in general.

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REFERENCES

Assah, F., Mbanya, J. C., Ekelund, U., Wareham, N., & Brage, S. (2015). Patterns and correlates of objectively measured free-living physical activity in adults in rural and urban Cameroon. *Journal of Epidemiol Community Health*, *69*(7), 700-707. http://dx.doi.org/10.1136/jech-2014-205154

Azagba, S., & Sharaf, M. F. (2014). Physical inactivity among older Canadian adults. *Journal of physical activity & health*, *11*(1), 99-108. https://doi.org/10.1123/jpah.2011-0305

Bassett Jr, D. R., Pucher, J., Buehler, R., Thompson, D. L., & Crouter, S. E. (2008). Walking, cycling, and obesity rates in Europe, North America, and Australia. *Journal of physical activity & health*, *5*(6), 795-814. doi: 10.1123/jpah.5.6.795.

Biernat, E., & Tomaszewski, P. (2015). Association of socio-economic and demographic factors with physical activity of males and females aged 20–69 years. *Annals of Agricultural and Environmental Medicine 22*(1), 118-123. doi: 10.5604/12321966.1141380

Booth, M. L., Okely, A. D., Chey, T., Bauman, A., & Macaskill, P. (2002). Epidemiology of physical activity participation among NSW school students. *Australian and New Zealand Journal of Public Health*, *26*(4), 371-374. doi: 10.1111/j.1467-842x.2002.tb00189.x.

Borodulin, K., Zimmer, C., Sippola, R., Mäkinen, T., Laatikainen, T., & Prättälä, R. (2012). Health behaviours as mediating pathways between socioeconomic position and body mass index. *International journal of behavioral medicine*, *19*(1), 14-22. doi: 10.1007/s12529-010-9138-1.

Brown, W. J., Burton, N. W., & Rowan, P. J. (2005). Updating the Evidence on Physical Activity and Health in Women. *American Journal of Preventive Medicine*, *33*(5), 404-411. https://doi.org/10.1016/j.amepre.2007.07.029

Ceña, D. P., Blanco, C. A., Garcia, R. J., Barrera, V. H., Garrido, P. C., Martinez, E. P., & De-las-Peñas, C. F. (2011). Time trends in leisure time physical activity and physical fitness in elderly people: 20 year follow-up of the Spanish population national health survey (1987-2006). *BMC Public Health*, *11*, 799-809. doi: 10.1186/1471-2458-11-799.

Cerin, E., & Leslie, E. (2008). How socio-economic status contributes to participation in leisure-time physical activity. *Social science & medicine*, *66*(12), 2596-2609. doi: 10.1016/j.socscimed.2008.02.012.

Chen, M., Wu, Y., Narimatsu, H., Li, X., Wang, C., Luo, J., & Xu, W. (2015). Socioeconomic Status and Physical Activity in Chinese Adults: A Report from a Community-Based Survey in Jiaxing, China. *Public Library of Science, 10*(7), e0132918. doi: 10.1371/journal.pone.0132918

Čolović, M. (2014). Načini ispoljavanja krize srednjih godina, osećanje smisla života i oblici usklađivanja porodičnih i profesionalnih uloga u Srbiji, doktorska disertacija. Niš: Filozofski fakultet Univerziteta u Nišu.

Čolović, M. & Stojković, M. (2017). Midlife crisis – external manifestations and internal changes, *Teme, 42*(2), 315-336. doi: 10.22190/TEME1702315C

Čolović, M. (2017). Kriza srednjih godina u savremenoj Srbiji, *Glasnik Antropološkog društva Srbije, 52*(1-2), 125-132. https://doi.org/10.5937/gads52-14534

Čolović, M., Gadžić, A., Ilić, R. & Petrović, M. (2020). Physical activity as one of the most optimal ways of active fatigue elimination and overcoming midlife crisis, *Facta Universitatis, Series: Physical Education and Sport, 18*(1), 239-247. https://doi.org/10.22190/FUPES190630021C

Čolović, M., & Mitić, V. (2023a). Osećanje smisla života u odraslom dobu i starosti, *Andragoške studije, 11*, 61-89. https://doi.org/10.5937/AndStud2202061C

Čolović, M., & Mitić, V. (2023b). The main motives for buying organic food in people of the former Yugoslavia, *British Food Journal*, *125*(6), 2257-2274. https://doi.org/10.1108/BFJ-06-2021-0651

Čolović, M., & Mitić, V. (2021). Determinant factors influencing organic foods purchase. *Acta agriculturae Serbica, 26*(51), 89-95. https://doi.org/10.5937/AASER2151089C

Čolović, M., & Mitić, V. (2022). The Relationship between the Frequency of Physical Activity and the Level of Depression, *Research & Investigations in Sports Medicine*, *9*(2), 814-817. https://doi.org/10.31031/RISM.2022.09.000707

Guessous, I., Gaspoz, J. M., Theler, J. M., & Kayser, B. (2014). Eleven-year physical activity trends in a Swiss urban area. *Preventive medicine, 59*, 25-30. doi: 10.1016/j.ypmed.2013.11.005.

Guthold, R., Cowan, M. J., Autenrieth, C. S., Kann, L., & Riley, J. M. (2010). Physical activity and sedentary behavior among schoolchildren: a 34-country comparison. *The Journal of pediatrics, 157*(1), 43-49. doi: 10.1016/j.jpeds.2010.01.019.

Hallal, P. C., Andersen, L. B., Bull, F. C., Guthold, R., Haskell, W., & Ekelund, U. (2012). Global physical activity levels: surveillance progress, pitfalls, and prospects. *Physical activity, 380*(9838), 247-257. https://doi.org/10.1016/S0140-6736(12)60646-1

Hallal, P. C., Victora, C. G., Azevedo, M. R., & Wells, J. C. (2006). Adolescent Physical Activity and Health. *Sports Medicine, 36*, 1019-1030. Retrieved from https://link.springer.com/article/10.2165/00007256-200636120-00003

Hansen, B. H., Kolle, E., Dyrstad, S. M., Holme, I., & Anderssen, S. A. (2012). Accelerometer-determined physical activity in adults and older people. *Medicine and science in sports and exercise, 44*(2), 266-272. doi: 10.1249/MSS.0b013e31822cb354

Harper, S., & Lynch, J. (2007). Trends in Socioeconomic Inequalities in Adult Health Behaviors Among U.S. States, 1990-2004. *Public health reports, 122*(2), 177-189. doi: 10.1177/003335490712200207

Humphreys, B. R., McLeod, L., & Ruseski, J. E. (2013). Physical activity and health outcomes: Evidence from Kanada. *Health Economics, 23*(1), 33-54. https://doi.org/10.1002/hec.2900

Kavanagh, A. M., Goller, J. L., King, T., Jolley, D., Crawford, D., & Turrell, G. (2005). Urban area disadvantage and physical activity: a multilevel study in Melbourne,

Australia. *Journal of Epidemiology & Community Health, 59*(11), 934-940. http://dx.doi.org/10.1136/jech.2005.035931

Landis, M. J., Peppard, P. P., & Remington, P. L. (2007). Characteristics of school-sanctioned sports: participation and attrition in Wisconsin public high schools. *WMJ: official publication of the State Medical Society of Wisconsin, 106*(6), 312-318.

Marinković, I. & Galjak, M. (2021). Effects of the covid-19 pandemic on mortality in serbia in 2020. *Teme*, Vol. XLV, No 4, 1261-1273.

Matthews, C. E., Adriana L Jurj, A. L., Shu, X. O., Li, H. L., Yang, G., Li, Q., & Zheng, W. (2007). Influence of exercise, walking, cycling, and overall nonexercise physical activity on mortality in Chinese women. *American journal of epidemiology, 165*(12), 1343-1350. doi: 10.1093/aje/kwm088.

McMurray, R. G., Harrell, J. S., Deng, S., Bradley, C. B., & Cox, L. M. (2000). The influence of physical activity, socioeconomic status, and ethnicity on the weight status of adolescents. *Obesity research, 8*(2), 130-139. doi: 10.1038/oby.2000.14.

Mitić, V., & Čolović, M. (2023). The impact of the Covid-19 pandemic on the frequency of shopping and online sale of organic food among consumers of the former Yugoslavia. *Food and Feed Research, 50*(1), 25-34. https://doi.org/10.5937/ffr0-43204

Mitić, V., & Čolović, M. (2022a). The main demographic characteristics of customers and the frequency of purchases organic food. *Economics of Agriculture, 69*(2), 349-364. https://doi.org/10.5937/ekoPolj2202349M

Mitić, V., & Čolović, M. (2022b). The basic features of typical consumers of organic food. *Journal of Agricultural Sciences, 67*(4), 433-452. https://doi.org/10.2298/JAS2204433M

Nie, C., & Zepeda, L. (2011). Lifestyle segmentation of US food shoppers to examine organic and local food consumption. *Appetite, 57*(1), 28-37. https://doi.org/10.1016/j.appet.2011.03.012

Ord, K., Mitchell, R., & Pearce, J. (2013). Is level of neighbourhood green space associated with physical activity in green space? *International Journal of Behavioral Nutrition and Physical Activity, 10*(1), 127. doi: 10.1186/1479-5868-10-127

Powell, K. E., Paluch, A. E., & Blair, S. N. (2011). Physical Activity for Health: What Kind? How Much? How Intense? On Top of What? *Annual Review of Public Health, 32*, 349-365. https://doi.org/10.1146/annurev-publhealth-031210-101151

Romas, J. A., & Sharma, M. (2017). Regular Physical Activity and Exercise. *Practical Stress Management (Seventh Edition)*, 155-168. https://doi.org/10.1016/B978-0-12-811295-3.00008-5

Santos, L., Elliott-Sale, K. J., & Sale, C. (2017). Exercise and bone health across the lifespan. *Biogerontology, 18*(6), 931-946. doi: 10.1007/s10522-017-9732-6

Saxena, S., Ommeren, M. V., Tang, K. C., & Armstrong, T. P. (2009). Mental health benefits of physical activity. *Journal of Mental Health, 14*(5) 445-451. https://doi.org/10.1080/09638230500270776

Schifferstein, H. N., & Ophuis, P. A. (1998). Health-related determinants of organic food consumption in The Netherlands. *Food Quality and Preference, 9*(3), 119-133. https://doi.org/10.1016/S0950-3293(97)00044-X

Stamatakis, E., & Chaudhury, M. (2008). Temporal trends in adults' sports participation patterns in England between 1997 and 2006: the Health Survey for England. *British journal of sports medicine, 42*(11), 901-908. doi: 10.1136/bjsm.2008.048082.

Sullivan, R., Kinra, S., Ekelund, U., Bharathi, A. V., Vaz, M., Kurpad, A., & Kuper, H. (2011). Socio-demographic patterning of physical activity across migrant

groups in India: results from the Indian Migration Study. *PloS one, 6*(10), e24898. doi: 10.1371/journal.pone.0024898

Vaughan, C., Kilkkinen, A., Philpot, B., Brooks, J., Schoo, A., Laatikainen, T., & Dunbar, J. A. (2008). Physical activity behaviours of adults in the Greater Green Triangle region of rural Australia. *The Australian journal of rural health, 16*(2), 92-99. doi: 10.1111/j.1440-1584.2008.00957.x.

Vu, T. H., Bui, T. T., Nguyen, T. K., & Hoang, V. M. (2020). Adverse influence of multilevel socioeconomic status on physical activity: results from a national survey in Vietnam. *BMC Public Health, 20*(1), 561-571. doi: 10.1186/s12889-020-08695-5.

Warburton, D. E., & Bredin, S. S. (2016). Reflections on Physical Activity and Health: What Should We Recommend? *Canadian Journal of Cardiology, 32*(4), 495-504. https://doi.org/10.1016/j.cjca.2016.01.024

ОДНОС ИЗМЕЂУ ФИЗИЧКЕ АКТИВНОСТИ И ЗАДОВОЉСТВА ФИЗИЧКИМ ИЗГЛЕДОМ

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Резиме

Пандемија Ковид-19 је утицала на то да све више људи почне да обраћа пажњу и увиђа значај здравог начина живота. То свакако није могуће без адекватне исхране и одговарајуће физичке активности. Наиме, за вођење здравог начина живота неопходно је конзумирати адекватну храну која у изобиљу садржи витамине, минерале и друге хранљиве материје. Осим тога, неопходна је и адекватна физичка активност ради постизања доброг здравственог стања и јачања имунитета. Велики број стручне и научне литературе указује на то да физичка активност представља најбољу превенцију од хроничних болести и превремене смрти. Стога не чуди да је препорука Светске здравствене организације да одрасли недељно имају најмање 75 минута интензивне, или 150 минута умерене физичке активности како би побољшали своје здравствено стање. У овом истраживању се испитује однос између посвећености физичком изгледу и задовољства сопственим физичким изгледом. Такође се испитује колико демографске карактеристике као што су пол, старосна доб, ниво образовања, висина прихода, и брачни и радни статус утичу на физичку активност. С обзиром на трајање актуелне пандемије Ковид-19, истраживање је спроведено online уз помоћ Гугл упитника који је конструисан и коришћен у више сродних истраживања од стране аутора. Упитник се састоји од 20 питања на седмостепеној Ликертовој скали чија се поузданост кретала од 0,75 до 0,85 Кронбахове алфе. Упитник је послат на имејл адресе 900 испитаника из целе Србије. Испитаници су различитог пола, старосне доби и других демографских карактеристика, како би узорак био што репрезентативнији. Упитник је комплетно попуњен од стране 585 испитаника, и за обраду узорка је коришћен СПСС програм. С обзиром да расподела скорова на регистрованим варијаблама значајно одступа од нормале, коришћене су непараметријске технике приликом обраде података. Поред дескриптивне статистике, коришћени су Спирманов коефицијент корелације, Ман-Витни У тест за одређивање разлике између две групе испитаника и Крускал-Волисов тест за анализу више група испитаника. Резултати су показали да су особе које су најзадовољније

својим физичким изгледом уједно и физички најактивније и посвећене свом физичком изгледу (ρ=0,473; $p<0,01$). Особе женског пола (U=24470,500; $p<0,05$), особе са вишим примањима (χ^2=8,102; $p<0,05$) и особе млађе животне доби (χ^2=20,533; $p<0,01$) су физички активније и посвећеније свом физичком изгледу, док се разлике у степену образовања нису показале статистички значајним када су физичка активност и посвећеност физичком изгледу у питању ($p>0,05$). Импликације истраживања се огледају у идентификацији дела становништва које није довољно физички активно, па се тиме пружа могућност активније промоције различитих видова физичке активности од стране државе и њених органа, са циљем подизања свести о важност физичке активности и вишеструке користи које она пружа. Самим тим би и држава остварила значајну уштеду финансијких средстава преко мањих трошкова здравственог система.