

# Significance and frequency of sports and recreational activities in the demographic structure: middle-aged people

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**Abstract.** *An important factor for any person is recreation or physical activity. It is well known that the effects of recreation certainly affect the psychophysical state of man, as well as the social environment, social intelligence, and more specifically, overall health. A groups of people who do not exercise are frequent, especially in middle age. In terms of physical activity, they mean all those contents that become acceptable to all populations. With the development of modern technology and the accelerated pace of life, it has also contributed to the development of modern awareness of the importance of sports activities in the daily life of modern man. The authors of the paper conducted research on an increasingly topical topic in the World, how much physical activity is present in the category of middle age. The research was carried out in Novi Sad (Serbia) in 2018, and through the processing of data in the SPSS program 23.00. The starting hypothesis of the research was confirmed that groups of middle-aged subjects less practiced daily sports and recreational activities. Also, the theoretical aspects (obtained by the bibliographic-speculative method) of the importance of practicing sports and recreational activities for human life will be presented in the paper, through the consideration of many domestic and World researches.*

**Key words:** *sport, recreation, physical activity, Novi Sad.*

## I. INTRODUCTION

An increasingly topical topic in world research is the physical activity of middle-aged people. The quality of a person's life is determined by physical activity, which has major implications for the advancement of health: as a means of recovery and recreation, they influence the increase of working ability [5]. The World Health Organization recognized the importance of nutrition and physical activity in reducing morbidity and mortality and, in 2004, adopted a Global Strategy on Nutrition, Physical Activity and Health, and in 2010, a Global Recommendation on Physical Activity for Health [18]. Global Plan for Prevention of Mass Non-communicable Diseases 2013-2020, The World Health Organization goes a long way in promoting healthy eating and physical activity, as reducing the prevalence of physical inactivity by 10% by 2025 is one of nine global goals set [18].

The notion of healthy lifestyles associated with the idea of healthy behavior is increasingly used, and especially because the existence and recognition of social and cultural factors that are linked to health issues is recognized and recognized.

Healthy lifestyles are defined by other health-related behaviors, which can be either health-promoting or health-damaging behaviors. However, in order to fit into the definition of a healthy lifestyle, apart from the need for individual health behaviors, they should also be part of everyday life activities. In the context of understanding the importance of physical activity, the influences of many factors are emphasized, among others: socio-economic circumstances, acquired habits and needs of the population, but also educational, educational, cultural and other. In recent years, recreation has been considered a daily and obligatory activity [17]. Poor nutrition and reduced activity, amidst an accelerated and modern lifestyle, have major negative effects on human health. The authors of the paper conducted a survey in 2018, in Novi Sad. The aim of the research was to determine the attitude of middle-aged citizens on the importance of recreational or physical activities for life. The research included a total of 467 subjects, and the obtained data were analyzed in the SPSS software, version 23.00. The results obtained unambiguously confirm the starting hypothesis that the examined profile of people does not participate sufficiently in physical activities, in fact they do not carry out recreational activities to the extent that is desired and recommended for a healthy life. In addition to survey research, the authors have collected, analyzed and interpreted theoretical data through a bibliographic-speculative method, and analysis and synthesis (two thought-logical complementary processes) have been used in discussing the results obtained and comparing them with current theoretical views in the wider field covered by the research.

## II. LITERATURE REVIEW

Researchers at the University of California-San Francisco and the University of Mississippi studied six thousand five hundred adults, and found, for national research, that physical activity is a preventative age between forty and sixty-five, which can affect life expectancy [15]. Physical activity and

exercise are important at any age, but in their middle years, their importance increases as they reduce the risk of chronic diseases and help us maintain satisfactory physical and cognitive functions. Most middle-aged people begin to experience the first signs of aging: less mobility, faster fatigue, weight gain, muscle loss, and bone loss [1]. Physical activity after the forties, in this sense, becomes an important factor for more efficient daily work and maintaining quality of life. According to the World Health Organization definition, physical activity is any movement of the body, due to the movement of skeletal musculature, which leads to higher energy consumption than that consumed at rest [17]. Along with conducting regular recreational activities, the phenomenon of healthy eating certainly emerges. Healthy lifestyles imply an appropriate form of healthy behavior (eliminating bad habits, eating right). When it comes to middle-aged people, when choosing physical activities, it is necessary to keep in mind the chronological age (years), gender, health status, level of physical fitness (fitness), as well as subjectively expressed needs and interests [6]. Preference should be given to aerobic activities (walking, jogging, cycling, swimming, etc.), as well as appropriate (moderate) musculature enhancing activities. Walking as a form of physical activity has been shown to reduce anxiety, that is, to help delay the first symptoms of the disease. One study showed that the effects of regular training in the moderate workload zone contribute to the improvement of the condition in people who have experienced severe depression. Regular physical activity of moderate intensity enables the combustion of products of a stressful situation, and thus strongly influences the reduction of negative effects of stress [8]. Research shows that stress is one of the risk factors for cardiovascular disease. Aerobic training increases the total calorie consumption by prolonging the duration of the workout, and the intensity is in the background. The development of modern society has led to the spread of addiction diseases, especially alcoholism and drug addiction, which negatively affect both individuals and the entire social community [11]. It should accurately plan and program sports activities and invest in sports facilities, thus reducing many other social problems [5]. The aging process first affects the cardiovascular and nervous systems. The accumulation of cholesterol in the blood vessels during the aging process, leads to a gradual weakening of the supply of cells of various organs to the blood, tissue nutrients and excretion of spent metabolites (waste materials) from the cells [12].

In old age, calcium precipitates in the cartilage of the spinal column and joints, leading to constipation and reduced mobility, but also to sarcopenia (loss of muscle mass). Older people who exercise are less likely to have health problems than those who are inactive, according to scientific research [3]. The physical activity that is dosed causes older people to have a better quality of life, firmer bones, better mobility and balance, reduced risk of fracture and slower loss of muscle mass [4]. However, high intensity physical activity is not recommended in stressed persons, but only moderate intensity exercise activities. Previous studies have shown that quality of life, that is, changing and controlling risk factors, reduces morbidity and mortality from cardiovascular disease. The processes of regression of the musculoskeletal system can be slowed down by proper physical activity. The formation of new bone cells increases significantly as soon as exercise is resumed, which means that physical activity improves the formation of new bone cells, and thus bone density. By

exercising, we increase muscle mass at the expense of increasing the diameter of the muscle fibers, or in the period of development to the infancy stage, at the expense of increasing the number of muscle fibers. The effects of physical activity at the level of muscle cells are reflected in a series of qualitative changes [9]. Musculoskeletal disorders are the most common work-related illnesses in Europe, affecting millions of workers in all industries [6].

Body weight increases with age, but daily routine lifelong physical activity can reduce its increase. Due to insufficient physical activity, there has been a huge increase in obesity in EU countries. Data from the World Health Organization on physical activity in a large number of countries in the region of Eastern Europe [17] show that of the five adults, only one is involved in little or no physical activity, that is, a high degree of inactivity. In Finland, conducting annual surveys indicated an increase in the number of physically active persons from 40% to 60%. When looking at the area of Switzerland, the research suggests that in 1992 the number of persons involved in physical activity from 35.7% in 1997 increased by 3.7%, and in 2002 decreased to 36.8% [2]. In Australia, researchers [13] investigated the relationship between occupation, time spent at work, and leisure activity in middle-aged individuals (21,787 subjects). The results showed that 67.7% of the respondents were not active enough (women were more inactive (72.2%) than men (64.8%)). Muntner [13] explored the relationship between employees middle-aged age groups (50-59 years old, employed by one large company) and their physical activity in leisure time, whose health is subjectively assessed. At work, physical activity in leisure time and psychological stress, Lachman [11] dealt with psychosocial conditions in the workplace, physical leisure activities, and unemployed people in Sweden. Men, less likely to engage in physical activity in their leisure time than women. There some studies that have been [10] investigated the link between exercise in the workplace with the level of physical fitness, work ability of employees and assessment of health status.

The results show that employees in workplaces where there is physical activity need to start prevention before health capacity and physical ability begin to decline. Some world studies [11] investigated how much physical activity a middle-aged population (employed) has in Germany. The aim was to identify employee involvement in physical activity and to define job related factors that influence participation in sports activities. The results show that 39.2% of the population does not participate in sports, 19% exercise at least 1 hour per week, 20.2% exercise regularly 1-2 hours per week, 13.4% of respondents exercise 2-4 hours per week. Palauska [14] found that less than 50% of Americans regularly engage in physical activity in their study of the incidence of physical activity in US residents. Abu Omar [7] presented an article that presented physical activity in 15 countries of the European Union. The results showed that men spend more days in physical activity than women. When looking at the countries, the people of Greece spend the most time in intense physical activity and the residents of Spain the least. The Dutch have the most work days spent in moderate physical activity and the Irish have the least. In the same study, Abu-Omar [8] published an article on subjective assessment of the health and physical activity of EU residents. The results indicated that in one part of the population, physical activity was not associated with subjective health assessment.

**III. METHODOLOGY OF RESEARCH AND HYPOTHESIS DEVELOPMENT**

The following methods were used in the research of the given problem: the bibliographic-speculative method was used in collecting, analyzing and interpreting the obtained data, or for structuring the theoretical part of the paper. In the immediate implementation of this method, the basic source of data consisted of relevant bibliographic units (books, textbooks, reference journals, etc.), as well as logical reasoning, followed by the empirical method - the research was conducted through direct involvement of researchers in collecting original or raw data. In this way, experiential facts were presented, expressed by quantitative (numerical) values. The statistical method was applied in the mathematical processing of empirical material, that is, the results obtained from the questionnaires after completing the information collection were statistically processed, using the SPSS computer program for statistical data processing; the analysis proceeded from general, global concepts to specific and individual things, and synthesis from specific and individual things to general concepts.

The authors of the paper began a survey of the frequency and significance of physical activity in middle-aged people. (tabl. 1-3) A survey was conducted between May and August 2018 in Novi Sad. The sample included a total of 467 respondents, over 45 years of age. Considering the nature of the research, it was borne in mind that there is almost no perfect research measure in the social sciences, so one should not expect it to be strictly found for what we want to find out by applying evaluation. The authors have endeavored to choose the right parameter that can provide approximate information, and give it a satisfactory form, more precisely to obtain information that will contribute to the achievement of the research objective. The study started with a starting hypothesis, which was H: Members of the middle-aged group do not participate sufficiently in sports and recreational activities. As a sub-hypothesis, H1 is set: Middle-aged people are aware of the importance and familiarity with the effects of physical activity on human health.

**IV. RESULTS AND DISCUSSION**

More than 600 respondents participated in the survey, where 467 complete survey questionnaires were taken into the analysis. When looking at the demographic structure, only a few characteristics will be highlighted for the purposes of this paper. Of the total number of survey participants, 59.8% were men and 40.2% were women. The sample included the population of 45 years as the youngest and the oldest aged 70 years. In the next part of the paper will be processed data in SPSS program, version 23.00.

Many world-class researchers and theorists have been engaged in leisure activities as recreational activities. Motivation to participate in sports and recreational activities has been addressed so far, among others. Motivation is certainly one of the most significant distinctive components in personality structure and is therefore considered more important than other factors for explaining social behavior. Motivation in psychological science is almost the most complex area, since motivational processes involve a number of other psychic processes. It is virtually impossible to talk about motivation, not to mention emotions that necessarily accompany motivational behavior, not to mention perceptions related to stimulation, cognitive processes related to deciding

between two or more goals, not to mention personality with respect to the usual style of behavior in a state of motivation.

TABLE 1. RESEARCH PARTICIPANTS' ANSWERS ABOUT THE TYPE OF (NON) MOTIVATION FOR PHYSICAL ACTIVITY

Types of motivations for recreational activities	
For Recreation	Against Recreation
Extra energy and power	Negative attitude about exercise
Preserving health	Having no time
Blood pressure control	Disbelief in the benefits of physical activity
Better look	Poor exercise conditions
Weight Loss	Material costs
Feeling of improving the quality of life	Feeling ashamed
Sociocultural motives	Inadequate environment
The crying	Feeling tired
Better sleep	Feeling that the activity is coherent

Source: authors research

TABLE 2. PERCENTAGE VALUES FOR RESEARCH RESPONSES TO THE TOPIC OF PHYSICAL ACTIVITY

Items of research	Frequency				
	Yes	No	Periodically		
Active in sports during his youth	40.3%	31.7%	28.1%		
Do you play sports now	31.3%	23.8%	45%		
Do you have sports opportunities (time, money, space)	52.2%	30.8%	16.9%		
I describe my day as	Active	Moderate	Passive		
	9.9%	57.6%	32.5%		
Reasons for physical activity	Health	Relaxation	Trend		
	46%	26.3%	27.6%		
Awareness of the importance of sports	Great importance	No great importance	Maybe		
	58.5%	15%	26.6%		
Kind of sport	Walking	Mountain Climbing	Conditioning sports	Pilates, gym	Swimming
	63.6%	16.5%	10.3%	5.1%	4.5%
Self-assessment of health status	Good	Bad	Satisfactory		
	33%	42.6%	24.4%		
Self-assessment of fitness	Good	Bad	Satisfactory		
	35.3%	54.2%	10.5%		

Source: authors research

TABLE 3. DESCRIPTIVE STATISTICS FOR ANSWERING QUESTIONS ABOUT PRACTICING PHYSICAL ACTIVITIES

Items of Research	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic
Active in sports during his youth	467	2	1	3	1,88	,038	,818	,670
Do you play sports now?	467	2	1	3	2,14	,040	,863	,745
Do you have sports opportunities (time, money, space)	467	2	1	3	1,65	,035	,754	,568
I describe my day as	467	2	1	3	2,23	,028	,611	,373
Reasons for physical activity	467	2	1	3	1,82	,039	,839	,704
Kind of sport	467	4	1	5	1,70	,052	1,124	1,264
Self-assessment of health status	467	2	1	3	1,91	,035	,753	,568
Self-assessment of fitness	467	2	1	3	1,75	,029	,630	,397
Awareness of the importance of sports	467	2	1	3	1,68	,040	,866	,750
Valid N (listwise)	467							

Source: authors research.

*Background of research on motivation for recreational activities – similar worldwide researches*

Results of research papers that have been predominantly concerned with motivation to participate in sports and recreational activities in general, or individual activities in this field: Renowned Canadian psychologist Kenyon S.G. (1968) The “Six Scales for Assessing Attitudes Toward Physical Activity” is considered one of the founders of motivation research (using multilevel “Likert-type” scales that are suitable for factor analysis, belonging to higher-order statistical techniques) [5]. In a sample of 353 men and 215 women, high school students, a survey was conducted and six factors were identified by factor analysis for engaging in physical activity. Each factor was tested with 14 claims: social expectation, health and fitness, aspiration for awe, aesthetic expectations, catharsis (moving away from the frustrations that come from everyday life), asceticism [5].

The well-known Finnish author Talema R. in his work “Interest and motivation of recreational students in Finland” analyzes the results of the research; from Sweden-Engstrom; Finske-Talema and Naponen and concludes that: the motive for maintaining fitness-health, leisure and fun [12]. With the elderly, a little more interest in sports. Men have a slightly more pronounced competitive motive, while according to a WHO report, insufficient physical activity has been declared an independent risk factor. Previously, hypertension and obesity had this status, but lifestyle and work monitoring indicated hypokinesia as an independent risk factor. Based on the follow-up of a large number of respondents, through longitudinal studies conducted in the developed world, it has been observed that in people who do not have enough activity during work and leisure, overall mortality increases by 2.5 times, in cardio-vascular diseases the mortality rate is even higher by 3.5 times and in some types of cancer the fatal outcome is more present three times in girls more important weight maintenance, that is, aesthetic appearance. Analyzing the results of a survey conducted with 220 women who regularly exercised twice

a week, Petrark and Reljic [12] found in their paper “Attitudes and Interests of Women in Recreational Physical Exercise” the reasons for this; % relaxation 27.7% aesthetic reasons 19.5% health reasons 16.4% entertainment and leisure 6.4% for the sake of society.

The problem of motivation for recreational exercise was also addressed by the leading recreation expert of the then Czechoslovakia Hrcka J. (1975) in his work “The Importance of Disseminating Knowledge about the Role of Sports and Recreational Activities” [5]. When asked why people go in for sports and exercise, the following data are available: 35% for health, for health and fun, 17% for leisure only, 8% for health and physical development, 7.5% for fun. According to the data on sports activities with citizens of the European Union, we can say that we are far below the European average, because, with the exception of Portugal and Malta, the number of people who do not play sports in general ranges between 17 and 43 percent [13].

More than 1/3 of EU citizens declare that they do not exercise any physical activity in terms of recreational sports or leisure activities [13]. Only 15% of respondents stated that they dedicate a lot of time to such activities over a seven-day period (covered by this study). The level of physical activity that respondents have varies greatly from country to country. Only 3% of Bulgarian citizens, 4% of Italian citizens and 5% of Greek citizens claim that they exercise a lot of physical activity in the form of sports, recreation or other leisure activities, while this percentage in countries such as Finland, Luxembourg and Germany is almost 25% [11]. If we compare the data from our country with the data from the immediate environment, then the situation is somewhat more favorable, but we are still behind the region. The number of those who do not exercise at all in the countries around us for which data are available ranges as follows: Romania – 52%, Bulgaria – 36%, Hungary – 42%, Croatia – 59% [5].

Looking at the analyzed research data, it is clear that 40.3% of them were physically active in their youth, 31.7%

were inactive, and 28.1% only occasionally engaged in sports activities. The table below shows that the standard deviation for the given answers is 0.818. The following data show how much they are now engaged in recreational activities: 31.3% do not practice, 23.8% do not (standard deviation 0.863). The research participants had the opportunity to give reasons for not having regular physical activity, most often citing impossibilities such as: lack of free time, lack of funds to pay coaches and recreational facilities. The mean for this answer was 1.65, with a standard deviation of 0.754. In addition to the fact that a large percentage of the respondents answered that they practice physical activity, they do not describe their day as being very active in this regard.

More precisely, only 9.9% of respondents carry out activities on a regular basis every day, while the largest proportion rarely exercise sports and recreational activities, 57.6% and 32.5% consider having a passive life in terms of physical activity. They cite as reasons for doing recreation: 46% health reasons, 26.3% relaxation, 27.6% trend. The mean for this answer is 1.82 and the standard deviation is 0.039. Survey participants have a high level of awareness of the importance of recreational or physical activity in life: 58.5%, while 15% believe that no physical activity is needed in their spare time. The most popular types of recreation are: walking 63.6%, hiking 16.5%, fitness (ball sports, running, etc.) 10.3%, Pilates and fitness 5.1%, and swimming 4.5%.

The research participants had the opportunity to make their own assessment of their health and fitness. The mean for the self-reported health response is 1.91, with a standard deviation of 0.753. It is observed that 33% of the respondents claimed that they were in good health and 42.6% were in poor health. 35.3% think they are in good fitness, while 54.2% think they are in poor coding condition. The mean for self-assessment of fitness status is 1.75.

TABLE 4. MEAN FOR ANSWERS ABOUT IMPORTANCE OF PHYSICAL ACTIVITY IN RELATION TO THE CHRONOLOGICAL AGE OF SUBJECTS

Age	Mean	N	Std. Deviation
45-55	1,10	100	,302
55-70	1,75	267	,846
70	2,08	100	1,002
<b>Total</b>	1,68	467	,866

Source: authors research

Table 4 shows the results of the analysis of responses on the significance of physical activity by age or age. Between the ages of 45 and 55, 100 of them stated that they were aware of the importance of physical activity. The majority of them who stated that they were aware of the importance of exercise or physical activity for their health and life, total 267. Based on the obtained results, the hypothesis H was confirmed, which stated that the research participants did not practice sufficiently and regularly physical activity. in free time. Also, the hypothesis was confirmed, where based on the results it can be concluded that the research participants are very aware of the importance of exercising physical activity for health and life in general.

## V. CONCLUSION

An indicator of the development of the human community is the newly developed awareness of a culture of life in which recreational activities are involved. Physical activity becomes very important for creating one's own identity, but also a way to combat all diseases of modern civilization, passive lifestyles, social burdens, social disintegration and stress [10]. Sports and recreational activities are the main players in regulating human relations with nature: influence has in the improvement of human nature, the element of compensation, the factor in solving the imbalance between the strangeness of human work and anthropological features. Recent studies have confirmed that physical activity improves physical health through recreational exercise [1]. In modern living and working conditions, one of the most current areas of physical culture is the area of the recreation. Recreation stems from the need for society to investigate and scientifically study the specific links between work and other social phenomena as well as relationships that affect the psychosomatic status of a person [6].

The importance of sports recreation is to help a person adapt as a biological, and above all social being, to changes occurring in living conditions on the one hand and working conditions on the other, pointing to the motivation requirements that arise from a person's personal needs and interests in maintaining health, vitality, slowing down the aging process and personal mood. According to the results of studies, people between the ages of 18 and 64 who are more physically active have better cardiovascular health and a lower risk of developing many diseases, especially mass non-communicable diseases [8]. There are many ways to collect 150 minutes of total physical activity per week. First of all, if you talk about a total time of 150 minutes of physical activity, the same can be performed in several individual batches of at least 10 minutes, scheduling batches of physical activity during the week. This contributes to recognizing physical activity as a normal, daily activity [11]. For people 65 years and older, physical activity includes recreation or other physical activity that can be practiced in leisure time (walking or recreational cycling), physical activity due to work or home responsibilities, play, sports and other planned family-based activities or social environment [8]. In order to improve the condition of the musculoskeletal and cardiorespiratory system, bone health, and to reduce the possibility of developing anxiety, depression and cognitive disorders, as well as other non-communicable diseases, it is recommended that physical activities be carried out regularly.

The authors of the paper conducted a survey in Novi Sad, 2018, on a sample of 467 participants. The aim of the research was to determine what percentage of the respondents perform physical activities (sports, recreation), and how aware they are of the importance of conducting regular leisure activities. The data were analyzed in SPSS software, version 23.00. A starting hypothesis was put forward that test subjects, middle-aged, did not practice physical activity sufficiently, but were, in contrast, very aware of the great importance of human health activities (sub-hypothesis). According to the data obtained by the survey, 31.3% of the research participants carry out physical activities of different categories, while 45% only occasionally practice recreation. The reasons for not justifying regular physical activities are lack of free time,

lack of funds, etc. Most of the survey participants stated that they had a moderate physical activity pattern of 57.6%, and 32.5% of them passively spend their free time. Health reasons are cited as recreational activities, with 46% saying so. Although the data obtained from the confirmations is a starting hypothesis, based on the fact that 58.5% of the respondents claimed to have a very clear understanding of the importance of physical activities in their spare time, a sub-hypothesis was also confirmed. This is one study that identifies physical activity in the lifestyles of middle-aged people, with basic postulates focusing on age, as an important factor that can distribute certain components of health differently among respondents. Considering the health and socio-economic benefits of sports and recreational facilities, recognized especially in developed countries of the world, where strategies for improving physical activity for different populations are developed and implemented, the practical contribution of the research is reflected in the fact that the basic procedures are covered in this paper, which can help develop a strategy to promote the recreational activities of middle-aged people. If we compare this data with the data from the European Union, we will conclude that in our country the percentage of people who cite lack of time as a reason for not doing recreation is much lower than the European average [6]. Specifically, more than half of EU citizens agree with the statement that they do not have enough time to take advantage of all the opportunities to play sport in their place of residence. This data varies from Poland (45%) to France (60%). Activities that make up the basic content of leisure are: education, reading, socializing, walking, physical activity and more. Therefore, we can say that leisure time is that part of time which, after deducting the duration of the aforementioned activities, remains at the person's free disposal and can be used for personal organization of life and recreation [2]. The contents of sports recreation must be in accordance with the results of diagnostic procedures, health status, motor and functional abilities. Sports and recreational facilities must be organized and implemented in such a way as to have positive effects on strengthening interpersonal relationships, friendship, respect and appreciation of others, fair play relations, and on the other hand, developing self-esteem, feelings of pride and optimism.

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