

**Research article**

**RESEARCH OF PHYSICAL ACTIVITY AS A PART OF  
HEALTH-RELATED BEHAVIOR OF SCHOOL-AGE CHILDREN  
IN THE REPUBLIC OF SERBIA 2017/18**

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**Abstract.** *Physical activity is defined as any bodily movement produced by skeletal muscles that requires energy expenditure. Reduced physical activity and unhealthy eating habits represent a significant risk to children's health and the formation of a negative attitude toward themselves. Our research aimed to examine how physically active children aged eleven, thirteen, and fifteen are in the Republic of Serbia. The paper used data from the Health Behavior Survey of school-age children in the Republic of Serbia in 2017. The standardized international protocol of the World Health Organization was used to collect data. 3933 schoolchildren aged eleven, thirteen, and fifteen were surveyed. Daily physical activity is statistically significantly different by region at the ages of eleven and fifteen, with a tendency to decrease with age ( $\chi^2=39.84$ ;  $dF=21$ ;  $p=0.008$ ), and at the age of fifteen ( $\chi^2=42.77$ ;  $dF=21$ ;  $p=0.003$ ). The most pronounced difference by region is in Belgrade, where the number of physically active children is significantly lower. At the age of fifteen, every fifth child has daily physical activity, while in other regions a third of them do. Children aged eleven are physically active all 7 days a week in Šumadija and Western Serbia (41.2%), in Vojvodina 40.5%, in Southern and Eastern Serbia 39.6%, and the least in Belgrade 37.9%. Based on the analyzed data, it can be concluded that children aged eleven, thirteen, and fifteen in the Republic of Serbia are insufficiently physically active. The results show that it is necessary to intensify health-educational programs and improve cooperation between families, schools, and health institutions in the field of preventive activities.*

**Key words:** *children, physical activity, prevention, adolescence*

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## 1. INTRODUCTION

Any body movement caused by skeletal muscles that involves energy consumption is referred to as physical activity (CDC, 2022; WHO, 2017). There are numerous ways to engage in physical activity, including walking, cycling, playing sports, and engaging in active leisure (dance, yoga, tai chi). If done regularly, for long enough, and with enough intensity, any type of physical activity can be beneficial to your health (WHO, 2018). A lower risk of cardiorespiratory and muscular fitness, cardiometabolic health, cognitive outcomes, and mental health are just a few of the well-known health benefits of exercise (WHO, 2020). Physical activity is a useful approach to enhance energy demands, reduce levels of body fat as well as provide metabolically active tissue during adolescence (Miletić et al., 2019). Additionally, exercise improves mental health and prevents the onset of dementia (Guthold et al., 2018). Workout intends to improve a person's overall and skill-specific talents through physical activity (Arsović et al., 2019).

Children spend less time than they should being active in the modern world because they spend so much time at school, watching television, using passive forms of transportation, and using computers and computers. Their physical health is greatly impacted by adopting such a sedentary lifestyle (Detels et al., 2022). At school, at home, on the bus, and in the neighborhood, they spend a lot of time in settings that discourage movement and necessitate extended sitting. Movement and muscle activity have been reduced in schools, households, and public settings. Children's behavior is impacted by these changes, causing them to move less and sit more. Obesity in children and adolescents has increased as a result of bad eating patterns and decreased physical activity, which poses serious health risks (Chaput et al., 2020). Boys are not in the best physical shape, according to Milanovic et al. (2019). Males are more likely than females to be overweight (24.8%), and boys are more likely to be obese (27%) than females. The prevalence of overweight (24.8%) is related to gender and the prevalence of obesity is higher in boys (27%) than in girls (22.4%) (Milanovic et al., 2019). Children now spend more time watching television, utilizing computers, or playing video games than they did twenty years ago (Detels et al., 2022). Young children are showing signs of these multi-year increasing tendencies slowing down (Detels et al., 2022).

Physical activity is linked to better long-term health, including benefits to the cardiovascular and musculoskeletal systems and a decrease in obesity. It is also linked to higher self-confidence (WHO, 2017). However, young people's levels of physical activity are declining, and the proportion of fat youngsters is rising (Detels et al., 2022). There is a complex and multifaceted relationship between physical activity, energy use, and health (Malm et al., 2019). Over the past few decades, the majority of wealthy nations have maintained very steady rates or slightly downward trends in leisure-time physical activity (Guthold et al., 2018). Females were substantially less likely than males to begin or continue physical activity as adolescents and young adults (WHO, 2020). Girls (85%) were less physically active than males (78%) among adolescents aged 11 to 17 who did not fulfill the WHO recommendations for moderate to high-intensity physical activity each day (WHO, 2020). Compared to those living in rural areas, urban residents are 26% more likely to be considered physically inactive (Castrillon et al., 2020). Regarding psychosocial aspects, it was discovered that selecting a sedentary lifestyle was almost three times more likely when one lacked knowledge about physical activity (Rodulfo, 2019). A 48% association between a sedentary lifestyle and a bad self-perception of health was also found (Rodulfo, 2019).

Every child should strive to lead an active lifestyle. Everyone can be physically active through recreational activities and non-competitive sports. The likelihood of choosing a physically active lifestyle is increased by the potential of frequent physical activity and the satisfaction it provides (CDC, 2022). Because the habit is thought to be formed and accepted in childhood, altering the level of physical activity can have long-term effects (Carson et al., 2019). Children and adolescents between the ages of 5 and 17 are advised by the WHO to engage in at least 60 minutes of aerobic activity, primarily at a moderate to vigorous level, each day. Then, they should engage in exercises that are both muscle and bone-strengthening and high-intensity aerobic at least three days a week. They ought to restrict the amount of time they spend sitting down, particularly when doing so leisurely in front of a screen (WHO, 2020).

The current study aimed to examine how physically active children aged eleven, thirteen, and fifteen are according to age, sex, and territorial distribution in the Republic of Serbia, and whether they meet the recommended level of daily and vigorous physical activity.

## 2. METHODS

### 2.1. Participants

According to the World Health Organization's approach, a defined international study procedure including a questionnaire was utilized to gather information on schoolchildren's health behavior (WHO, 2010). Students between the ages of 11 and 15 made up the target audience. Not included in the study were any schools in Kosovo or Metohija. Using a nationally representative sample of 1.500 children for each age group, the established worldwide methodology was modified for use in the Republic of Serbia. A sampling frame was created using a list of Serbian elementary and secondary schools along with student enrollment data broken down by age. The Probability Proportional to Size technique was used to choose the schools. A stratified multistage sampling design was adopted in the study, and separate samples were taken for each of the three age groups. For each age group, 64 schools took part in the study. One or two classes of one grade were surveyed in each of the chosen schools. For primary schools, the sample was chosen based on region, and for secondary schools, based on region and type. Geographical research areas were designated for four statistical regions: Belgrade, Vojvodina, Šumadija and Western Serbia, Southern Serbia, and Eastern Serbia. Eight primary schools and nine high schools participated in Belgrade, eleven primary schools and ten high schools in Vojvodina, twelve primary schools and eleven high schools in Šumadija and Western Serbia, and eight primary schools and eight high schools in Southern and Eastern Serbia.

### 2.2. Measures

Data from a cross-sectional study conducted in 2017 by the Institute for Public Health of Serbia "Dr. Milan Jovanović Batut," the Ministry of Health, and the Ministry of Education, Science and Technological Development was used. The study was titled "Investigation of health-related behavior of school-age children in the Republic of Serbia." The questionnaire was comprised of questions. Two surveys were created from the questions; one contained 68 questions and was geared toward primary school students between the ages of 11 and 13 and the other contained 79 questions and included additional

questions about the use of psychoactive substances and reproductive health. Twelve groups of questions were created from the questionnaires. The groups of questions included sociodemographic information, a self-assessment of health, life satisfaction, the impact of family circumstances on health and health-related behavior, attitudes toward school, questions about friends (support and communication), eating patterns and nutrition, teeth brushing, use of psychoactive substances and alcohol, leisure activities, peer violence/abuse, injuries, reproductive health, and physical activity. Physical activity-related survey items were broken down into two categories: daily exercise for an hour in the week before the survey, and strenuous exercise three or more times.

### 2.3. Procedure

Forty professional interviewers were conducted in the field from May 3 to June 8, 2017, under the direction of the study team from the Institute of Public Health of Serbia, "Dr. Milan Jovanović Batut." The survey was voluntary and anonymous, with students completing the survey questionnaire themselves.

### 2.4. Statistical Analysis

The sample was divided into categories such as age, sex, geographic distribution, and physical activity. The  $\chi^2$  test was used to determine the significance of the variation in the frequency of the responses by area, within each age group. The level of significance of the difference was defined for a probability of 95%, i.e.  $p < 0.05$ . For the variables under investigation the mean, median, standard deviation, minimum, maximum, distribution, and the standard error of the mean, measures of frequency and relative numbers, measures of central tendency, and data dispersion were computed. A standardized test of descriptive statistics was used to determine the normality of the data distribution. Post hoc testing with the Bonferroni correction was used to discover any partial differences between the designated subgroups. All data were statistically analyzed in the SPSS 22.0 program. The outcomes are shown graphically and in tabular form.

Consent for the implementation of the population survey was given by the Ethics Committee of the Institute for Public Health of Serbia "Dr. Milan Jovanović Batut", and the consent of the parents and respondents was also obtained. The Ethics Committee of the Institute for Public Health of Serbia "Dr. Milan Jovanović Batut" gave consent for the secondary research of the collected data.

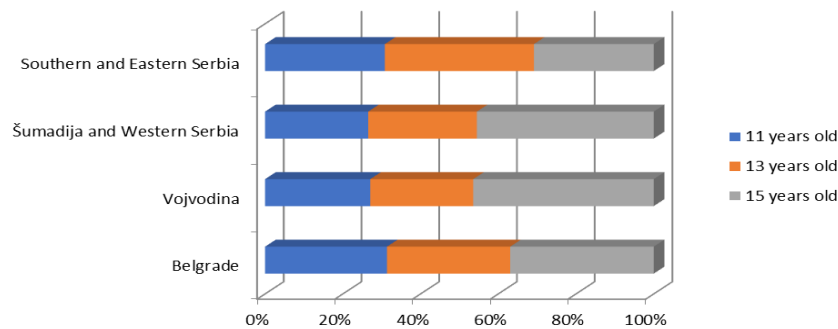
## 3. RESULTS

A total of 3933 school-aged children between the ages of 11 and 15 were polled. The majority of students, 1.180 (30%), were from Šumadija and Western Serbia, while 1.068 (27.2%) and 864 (22.0%) were from Vojvodina and Belgrade, respectively. The least number of students, 821 (20.9%), were from Southern and Eastern Serbia. In the sample under study, boys are disproportionately represented in Šumadija and Western Serbia (52.5%), whereas girls are disproportionately represented in Belgrade (55.2%). The gender distribution in the sample among the age groups demonstrates that there was a balanced representation across all age groups (Table 1).

**Table 1** Distribution of the sample by gender and age groups

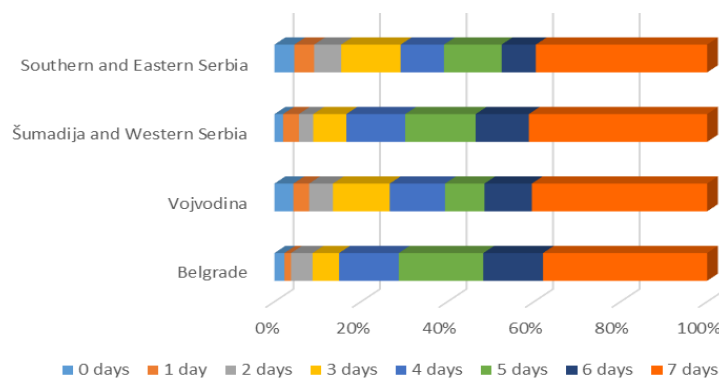
Age	Boys	Girls	Total
11 years	537 (49.7%)	589 (50.3%)	1126
13 years	610 (50.7%)	592 (49.3%)	1202
15 years	798 (47.7%)	807 (52.3%)	1605

The distribution of respondents by region in terms of age is shown in graph 1. In the region of Southern and Eastern Serbia, the most represented respondents are 13 years old (38.37%), while in other regions the most represented respondents are 15 years old (36.92-46.44%).



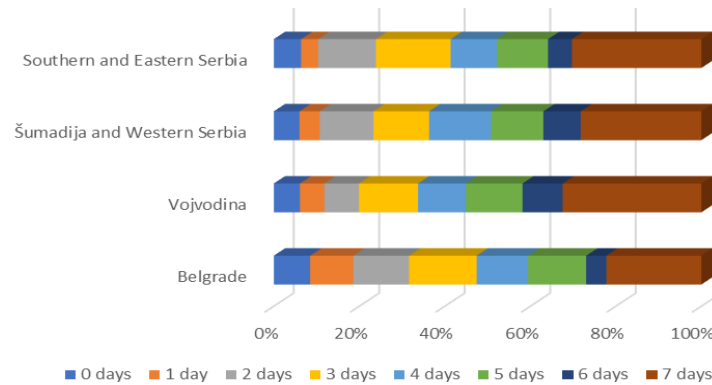
**Fig. 1** Distribution of the sample by age groups across regions

At the age of 11, 13.1% of kids in Vojvodina, or 13.8% of kids in Southern and Eastern Serbia, exercised three days in the previous week, compared to 6.1% of kids in Belgrade and 7.6% of kids in Šumadija. A total of 9.1% of children in Vojvodina exercised five days in the week before the study, compared to 13.3% in Southern and Eastern Serbia, 16.3% in Šumadija, and 19.5% in Belgrade. The lowest percentage of children who exercised six days a week was found in Southern and Eastern Serbia (7.9%), while other regions saw rates as high as 10.9% in Vojvodina, 12.3% in Šumadija, and 13.8% in Belgrade. If we examine physical activity across all seven days of the week, children in Šumadija and Western Serbia engaged in regular physical activity at the highest rate (41.2%), followed by Vojvodina with 40.5%, Southern and Eastern Serbia with 39.6%, and Belgrade with 37.9%.



**Fig. 2** Frequency of physical activity among children aged 11 by region

In Belgrade, 10.1% of 15-year-olds reported having exercised at least once over the previous seven days, compared to 4.0% in Southern and Eastern Serbia, 4.7% in Šumadija and Western Serbia, and 5.7% in Vojvodina. In Vojvodina, just 8.1% of children reported having exercised twice in the previous week, compared to 12.6% in Šumadija, 13.0% in Belgrade, and 13.5% in South and East Serbia. 4.7% of kids in Belgrade, 5.6% of kids in Southern and Eastern Serbia, 8.7% of kids in Šumadija, and 9.4% of kids in Vojvodina practiced for six days in the previous week. 15-year-old children exercised on 32.4% of days in Vojvodina, 30.3% of days in Southern and Eastern Serbia, 28.2% of days in Šumadija and Western Serbia, and 22.2% of days in Belgrade in the week before the survey.



**Fig. 3** Frequency of physical activity of children aged 15 by region (previous 7 days)

The representation of physical activity is statistically significantly different by region at the age of 11 ( $\chi^2=39.84$ ;  $dF=21$ ;  $p=0.008$ ) and 15 years ( $\chi^2=42.77$ ;  $dF=21$ ;  $p=0.003$ ). The Kruskal Wallis test showed a statistically significant difference between different ages in physical activity in the last seven days (.000). To see between which groups there is a statistically significant difference, we conducted the Mann-Whitney U test between pairs of groups and applied the Bonferroni alpha correction ( $0.05/3=0.017$ ). A series of post hoc tests - Bonferroni tests between students aged 11 and 13 showed that there was a statistically significant difference (.001) in physical activity, between students aged 13 and 15 (.000), and a significant difference was obtained when we analyzed the age groups of 11 and 15 (.000). The obtained results are shown in Table 2.

**Table 2** Physical activity in the last seven days in terms of age

Physical activity in the last seven days	N	Mean Rank	Mean	Std. Deviation	Med.	p
11 years	1076	2128.65	5.14	2.003	6.00	.000
13 years	1169	1980.07	4.86	2.053	5.00	.001
15 years	1589	1728.49	4.32	2.260	4.00	.000
Total	3834		4.72	2.156	5.00	

There is a very small statistically significant negative correlation concerning age and a small negative correlation concerning female gender which is statistically significant (Table 3).

**Table 3** Correlation (Spearman) of age, gender, and physical activity

Spearman's rho			Physical activity in the last seven days	Gender
Age	Correlation Coefficient	1.000	-.156**	-.014
	Sig. (2-tailed)	.	.000	.384
	N	3933	3834	3933
Physical activity in the last seven days	Correlation Coefficient	-.156**	1.000	-.218**
	Sig. (2-tailed)	.000	.	.000
	N	3834	3834	3834
Gender	Correlation Coefficient	-.014	-.218**	1.000
	Sig. (2-tailed)	.384	.000	.
	N	3933	3834	3933

We analyzed the total frequency of vigorous physical activity. Concerning the total number and percentage, the answers are shown in table 4.

**Table 4** The total frequency of vigorous physical activity

Vigorous physical activity	N	%
Daily	1116	28.4
4-6 times a week	860	21.9
2-3 times a week	886	22.5
Once a week	385	9.8
Once a month	169	4.3
Less than 1 per month	222	5.6
Never	231	5.9
In total	3869	98.4
Missing data	64	1.6
Total	3933	100.0

Some 2862 (72.7%) school children participated in vigorous physical activity three or more times a week out of a total of 3869 (97.6%) who answered this question. The Kruskal Wallis test showed a statistically significant difference between different ages in vigorous physical activity (.000). To see between which groups there is a statistically significant difference, we conducted the Mann-Whitney U test between pairs of groups and applied the Bonferroni alpha correction ( $0.05/3=0.017$ ). A series of post hoc tests - Bonferroni tests between students aged 11 and 13 showed that there is a statistically significant difference (.029) in vigorous physical activity between students aged 13 and 15 (.022), and we obtained a statistically significant difference when we analyzed the groups aged 11 and 15 (.017). The obtained results are shown in Table 5.

**Table 5** Vigorous physical activity in terms of age

Vigorous physical activity	N	Mean Rank	Mean	Std. Deviation	Med.	p
11 years	1084	1731.33	2.47	1.585	2.00	.017
13 years	1187	1890.63	2.71	1.670	2.00	.029
15 years	1598	2106.12	3.09	1.877	3.00	.022
Total	3869		2.80	1.756	2.00	

Children aged 15 have statistically significantly more energetic physical activity compared to school children aged 11, observed in the total sample (.017). This type of activity intensifies as age increases. The correlation between age and gender is shown in Table 6.

**Table 6** Correlation between age, gender, and vigorous physical activity

Spearman's rho		Gender	Vigorous physical activity
Age	Correlation Coefficient	1.000	-.014
	Sig. (2-tailed)	.	.384
	N	3933	3933
Gender	Correlation Coefficient	-.014	1.000
	Sig. (2-tailed)	.384	.
	N	3933	3933
Vigorous physical activity	Correlation Coefficient	.143**	.227**
	Sig. (2-tailed)	.000	.000
	N	3869	3869

There is a small significant positive correlation between age and vigorous physical activity, as well as a small correlation between gender and that type of activity, statistically significant, according to Cohen's criteria, in favor of male children.

#### 4. DISCUSSION

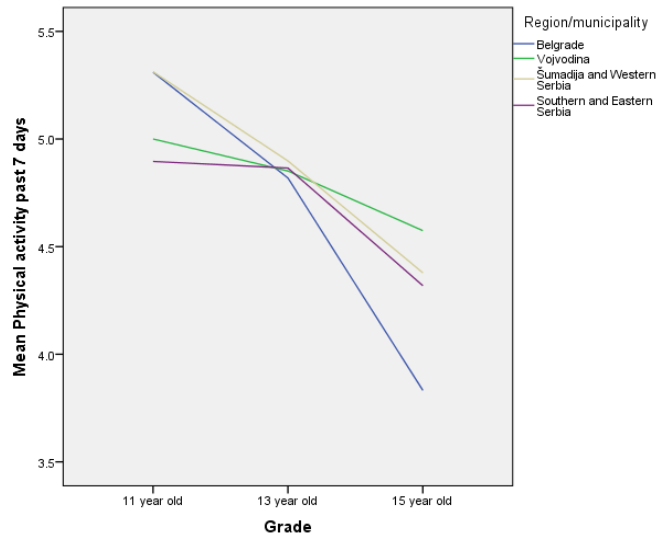
Improved physical fitness (cardiorespiratory and muscular), cardio-metabolic health (blood pressure, dyslipidemia, glucose intolerance, and insulin resistance), bone health, cognitive outcomes (academic performance), mental health (reduced depressive symptoms), and decreased adiposity are all health outcomes of physical activity in children and adolescents (Chaput et al., 2020). Parallel to this shift, research has shown that extended sitting, unrelated to exercise time, is a new risk factor for cardio-metabolic disease and elevated all-cause mortality. Play, sports, organized exercise, physical education in the classroom, alternate modes of transportation (wheeling, rollerblading, walking, and cycling), or household chores are all advised. Young people's physical, mental, and social well-being can be improved by moderate physical activity and enjoyment.

Data from 1.6 million schoolchildren in 164 countries throughout the world showed that in 2016, 80% of teenagers aged 11 to 17 did not meet the current requirements for daily physical activity, with girls being less physically active, which is consistent with the findings of our study (Guthold et al., 2018). The findings of Radisavljević Janić et al. (2020) also revealed that boys in Serbia are more physically active than girls and that younger adolescents in Serbia

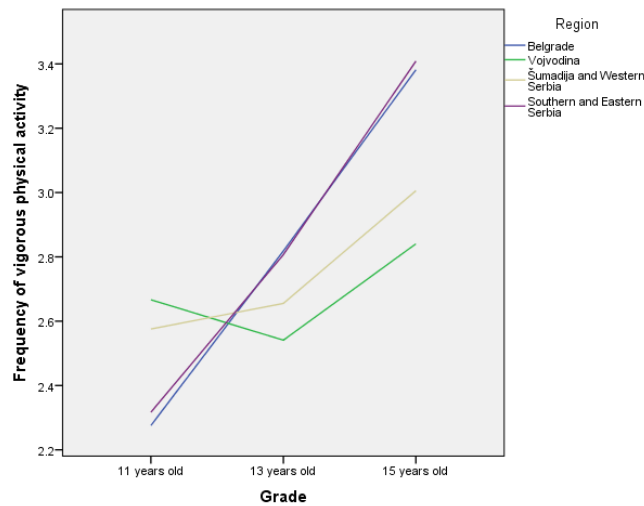


are moderately active. The results of the research by Radisavljević Janić et al. (2020) also showed that in Serbia, younger adolescents are moderately physically active and that boys have a higher level of physical activity compared to girls.

The findings of our study are consistent with a recent Italian study of a similar nature, showing that children's daily physical activity declines with age, while their frequency of vigorous physical activity increases (graphs 4 and 5) (Stival et al., 2022).



**Fig. 4** Frequency of daily physical activity by age and region



**Fig. 5** Frequency of vigorous physical activity by age and region

Boys in the Republic of Serbia are more physically active, as in the study by Biadgilign et al. (2022). Quality of life and contentment with one's appearance is much

higher for kids and teenagers who engage in more vigorous physical activity (Finne et al., 2013). Obesity in children and adolescents is linked to the emergence and maintenance of physical inactivity (Wu et al., 2017). The current focus on childhood overweight is justified, despite limited data on economic benefits. Nikolic et al. (2020) also showed higher values of intensive and moderate physical activity scores compared to females, in a representative sample of adolescents from one area in Serbia (Pančevo).

The majority of those surveyed completed at least 30 minutes of moderate exercise or 1.5 hours of strenuous exercise five days each week (Nikolic et al., 2020). Only about 19% of Serbian teenagers engage in intense physical activity. Serbian urban youth do not participate in enough physical activity (Nikolic et al., 2020).

The Republic of Serbia's school-aged population is physically active, but not enough. Two to three times per week, 22.5% of the responders engage in the advised strenuous physical exercise. In a comparable study, only roughly 19% of Serbian adolescents exhibited high levels of physical activity. According to Nikolic et al., Serbian urban youths do not exercise enough. Increasing physical activity requires a system-based approach. Since policies that encourage more physical activity can help health, local economies, community well-being, and environmental sustainability, cross-sectoral cooperation could result in major advantages (Guthold et al., 2018). From an early age, active play and recreation are crucial for children's and teenagers' healthy growth and development. The health literacy required for a long-term healthy and active lifestyle can be provided via quality physical education and supportive learning environments in schools (WHO, 2018). Sports organizations and youth groups are crucial places for social interaction and health, and communities in particular should support them (Chaput et al., 2020).

Evidence from a recently published systematic review of the literature shows that several types of physical activity, including aerobic exercise and activities that strengthen muscles and bones, are linked to better health outcomes (Chaput et al., 2020). Physical activity can be done as part of play, leisure, and recreation for kids and teenagers. The WHO has set a target of lowering the rate of obesity among adults and adolescents from its current rate, which can be accurately accomplished by boosting physical activity (WHO, 2017). In 2020, the World Health Organization (WHO) published updated global guidelines on physical activity and sedentary behavior for children and adolescents (Table 7).

**Table 7** WHO guidelines for physical activity of children and adolescents (5–17 years)

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**It is recommended that:**

- During the week, children and adolescents should engage in an average of 60 minutes per day of cardiovascular exercise at a moderate to an intense level.
- High-intensity aerobic exercise, as well as exercises that build bones and muscles, should be incorporated at least three days a week.

**Good practice recommendations:**

- It is preferable to engage in some physical activity than none at all.
  - Children and teenagers will benefit from physical activity for their health if they follow the suggestions.
  - Children and teenagers should begin with low-intensity exercise and gradually increase the frequency, intensity, and duration of their physical activity.
  - It is crucial to give all kids and teenagers safe, equal chances to engage in physical activity, as well as encouragement to do so. These activities should be fun, diverse, and appropriate for their age and skills.
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Source: WHO guidelines on physical activity and sedentary behavior for children and adolescents aged 5–17 years: summary of the evidence 2020. (Chaput et al., 2020)

The wealthy population has become less active over the past few decades. There is proof that differences in physical activity may be influenced by industrialization and globalization processes (Goryakin et al., 2015). On the other hand, local factors play a significantly larger role in explaining why some people remain slender while others gain weight than global ones (de Soysa & de Soysa, 2018).

The analysis of personality traits as a significant role in the practice of preventative forms of healthy behavior may be a suggestion for future research. Further research into the disparities between children's attitudes toward physical activity in urban and rural areas is necessary to comprehend the causes of insufficient physical exercise. Analyzing the social settings and attitudes of overweight children toward physical activity may also help us understand the causes of unhealthy lifestyles. School-aged children are a suitable choice if policymakers want to target a particular social group because they can be reached in most nations through school-mediated activities (Detels et al., 2022).

### CONCLUSIONS

Our findings demonstrate that between the ages of eleven and fifteen, regular physical activity differs statistically significantly by region, with a tendency to decline with age. The disparity between the regions was most evident in Belgrade, where there are much fewer youngsters who are physically active, especially when one considers the availability and opportunity for doing so. Thus, only every fifth child in Belgrade of the age of fifteen engages in daily physical exercise, compared to a third of children in Southern Serbia, Sumadija, and Vojvodina. However, strenuous physical activity should be more common, especially among girls, even though it gets stronger with age. It is evident from the data analysis that youngsters in the Republic of Serbia who are eleven, thirteen, and fifteen years old are not sufficiently physically active enough.

The implementation of new health and educational programs tailored to the needs of schoolchildren; creative health and educational approaches relating to changes in physical activity habits; enhancing the health of school-aged children by including health-educational content in the regular Work Plans; and operational cooperation between the education and health sectors within the framework of health-educational programs are all possible ways to increase physical activity among school-aged children.

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## FIZIČKA AKTIVNOST DECE ŠKOLSKOG UZRASTA – ISTRAŽIVANJE PONAŠANJA U VEZI SA ZDRAVLJEM DECE ŠKOLSKOG UZRASTA U REPUBLICI SRBIJI U 2017. GODINI

*Fizička aktivnost se definiše kao svaki telesni pokret koji proizvode skeletni mišići a koji zahteva utrošak energije. Smanjena fizička aktivnost i nezdrave navike u ishrani predstavljaju značajan rizik po zdravlje dece i formiranje negativnog stava prema sebi. Cilj našeg istraživanja bio je ispitati koliko su fizički aktivna deca uzrasta jedanaest, trinaest i petnaest godina u Republici Srbiji. U radu su korišćeni podaci iz Istraživanja ponašanja u vezi sa zdravljem dece školskog uzrasta u Republici Srbiji 2017. Za prikupljanje podataka korišćen je standardizovani međunarodni protokol Svetske zdravstvene organizacije. Anketirano je 3933 školske dece uzrasta jedanaest, trinaest i petnaest godina. Svakodnevna fizička aktivnost je statistički značajno različita po regionima u uzrastu od jedanaest i petnaest godina, sa tendencijom opadanja sa odrastanjem ( $\chi^2=39,84$ ;  $dF=21$ ;  $p=0,008$ ) i u uzrastu 15 godina ( $\chi^2=42,77$ ;  $dF=21$ ;  $p=0,003$ ). Najizraženija razlika po regionima je u Beogradu gde je broj fizički aktivne dece značajno manji. U uzrastu od petnaest godina svako peto dete u ima svakodnevnu fizičku aktivnost, dok u ostalim regionima njih trećina. Fizičku aktivnost deca uzrasta 11 godina, svih 7 dana u nedelji, imaju u Šumadiji i Zapadnoj Srbiji (41,2%), u Vojvodini 40,5%, Južnoj i Istočnoj Srbiji 39,6% i najmanje u Beogradu 37,9%. Na osnovu analiziranih podataka može se zaključiti da su deca uzrasta jedanaest, trinaest i petnaest godina u Republici Srbiji nedovoljno fizički aktivna. Rezultati pokazuju da treba intenzivirati zdravstveno-edukativne programe i poboljšati saradnju između porodice, škole i zdravstvenih ustanova u oblasti preventivnih aktivnosti.*

Ključne reči: deca, fizička aktivnost, prevencija, adolescencija