

## PECULIARITIES OF THE FACTORS WHICH AFFECT THE PHYSICAL ACTIVITY OF HIGH SCHOOL PUPILS

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### Abstract

Individual's physical activity is closely related to health level and physical fitness, which in turn are important components of life quality. The development of modern society leads to a number of negative factors which influence the overall human activity, reducing level of physical activity and causing occurrence of hypodynamia. The main objective of the study was to identify the main factors that affect high school pupils' physical activity. To solve this task, methods of analysis of scientific and methodical literature, method of analysis and synthesis and sociological survey, were applied. The contingent surveyed were pupils of secondary schools aged 15–17 years. As result of research, peculiarities of the factors, which determine the content and scope of high school pupils' physical activity, were identified.

**Key words:** physical activity, pupils, factors, spare time.

Андрій Мандюк. Особливості факторів, що впливають на рухову активність учнів старшого шкільного віку. Рухова активність індивіда тісно пов'язана з рівнем здоров'я та фізичної підготовленості, які є важливими складовими частинами якості життя людини. Розвиток сучасного суспільства зумовлює низку негативних факторів, які впливають на загальну життєдіяльність людини, знижуючи рівень рухової активності та спричиняючи виникнення явища гіподинамії.

Основне завдання дослідження полягало у визначенні основних факторів, які впливають на рухову активність учнів старшого шкільного віку.

Для виконання поставленого завдання застосовували *метод* аналізу науково-методичної літератури, метод аналізу й синтезу та соціологічне опитування. Контингентом досліджуваних були учні загальноосвітніх шкіл віком 15–17 років.

У *результаті* дослідження виявлено особливості факторів, що зумовлюють зміст й обсяг рухової діяльності учнів старшого шкільного віку.

**Ключові слова:** рухова активність, учні, фактори, вільний час.

Андрей Мандюк. Особенности факторов, которые влияют на двигательную активность учеников старшего школьного возраста. Двигательная активность индивида находится в тесной связи с уровнем здоровья и физической подготовленности, которые являются важными компонентами качества жизни человека. Развитие современного общества предопределяет ряд негативных факторов, которые влияют на общую жизнедеятельность человека, снижая уровень двигательной деятельности и вызывая явление гиподинамии. Основной задачей исследования было определение основных факторов, которые влияют на двигательную активность учеников старшего школьного возраста. Для решения поставленной задачи применялся *метод* анализа научно-методической литературы, метод анализа и синтеза и социологический опрос. Контингентом исследуемых были ученики общеобразовательных в возрасте 15–17 лет. В *результате* исследования выявлено особенности факторов, которые предопределяют содержание и объем двигательной деятельности учеников старшего школьного возраста.

**Ключевые слова:** двигательная активность, ученики, факторы, свободное время.

**Introduction.** Motor activity is a determining factor that significantly affects the quality of life of each individual [1]. The volume of motor activity is one of the most important indicators of a sustainable lifestyle and an important factor that determines the health of humans [3; 11].

According to the WHO, 1,9 million deaths worldwide are related to physical inactivity and overweight and obesity causes at least 2,6 million deaths each year [12].

Official statistics shows that over the last 17 years the population of citizens of Ukraine has decreased almost 10 million. The negative trend to reduce the number of people is unfortunately still relevant today [4]. This situation is not the result of the effective functioning of a number of critical systems, including health care, education and physical education system [5].

The research of physical fitness and health of students of different ages indicates that adverse effects on the child were made since the period of study in secondary schools which eventually leads to a reduction in so-called «healthy» children. Shaping health–learning process in educational institutions becomes relevant because of two global trends observed in the country during the last two decades, the negative dynamics of deterioration of children's health while increasing the level of workload on children and its intensity [8]. By graduation, only one fifth of the students have formed a healthy form of recreation where regularity sports

serves as an important component behavior. Regarding the level of physical activity of youth, it does not meet the WHO recommendations [2].

**Analysis of the research into this problem.** The study of various aspects of motor activity in different age groups is a popular hot topic of research, not only in physical education and sports. The study of a human motor activity problem begins with the preschool period.

Problems of motor activity in her dissertation «motor activity as a factor of mental well-being of preschoolers», Catherine were studied Levshunova who found that increased physical activity during the development of the child socially meaningful space in different types of play contributes to the establishment and strengthening of ties between social, cognitive, emotional achievements preschooler mental development [7].

Motor activity of primary school children was studied by Trachuk C, who compared the energy consumption of boys and girls in the course of various forms of motor activity [10].

Assessment of specially organized motor activity of children 14–17 years was conducted by I. O. Kalynychenko and O. Savchuk [6].

It is worth mentioning the features about research motor activity of students in free time. Specifically, M. O. Ripak, exploring «The level of involvement of students of secondary school age to the independent exercise» found that one of the main reasons that prevent students from independently exercising is the lack of free time [9].

Studies of the motor activity of students were carried out in other countries. Swedish researchers Inheherd Erikson and Margaret Sederberh found that 50 % of students in upper secondary schools are not involved in motor activity in the classroom physical education and health. 45 % of these students are not involved in physical activity at leisure. Interestingly, the researcher's empirical material was gathered by interviewing the Internet [13].

Studies of the University of North Texas found that since 1980 the number of children aged 6–11 years who suffer from obesity has doubled. Among children aged 12–15 years, this figure has increased threefold. Experts of the University also argue that the most favorable place for the formation of a healthy and active lifestyle is education, which is visited by about 95 % of children [14].

Physical activity of children and adolescents in the Polish Republic was investigated by Paulina BuchoraWojtyla, who found that a sedentary lifestyle among children and adolescents increased with the age. The author also revealed a more positive attitude to various forms of motor activity among children living in rural areas [15].

Despite numerous studies of motor activity characteristics of children of different age groups, questions remain scarcely explored factors that contribute to this motor activity.

**The goal of the work is** to identify particular factors that determine the physical activity of high school age students

**Research methods.** The study employs the following methods: analysis of scientific literature, analysis and synthesis poll.

The synthesis poll of 10–11 classes students of L'viv, Ternopol, Ivano–Frankivsk and Khmelnytsky secondary schools is done. The total number of students was 926 people. The sample was 6 % of the population. Accuracy of the data –  $\pm 4$  %.

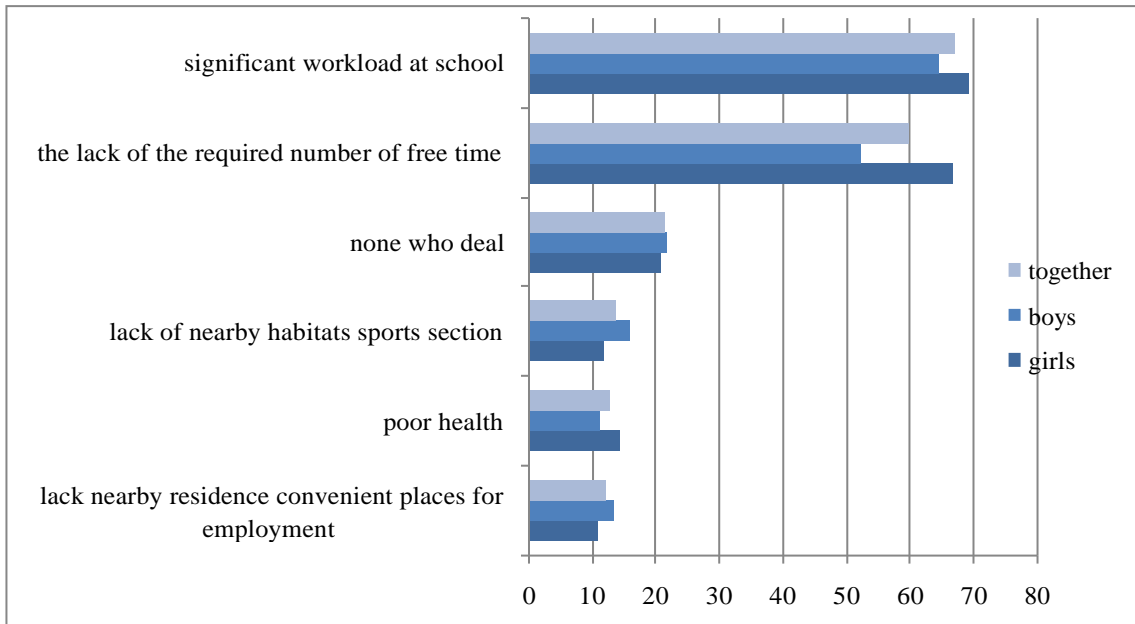
**Research results.** Studies of the factors that determine the physical activity of high school age students, was carried out as in the general context of motor activity as specific to motor activity during learning at school and in their free time.

The data obtained from the study show that the main factors, which the students of high school age prevent from systematic exercising of motor activity is «significant workload in school» and «lack of adequate amount of free time» (figure 1).

Excessive workload as a negative factor identified a total of 66,7 % of students, among them – 64,2 % of boys and 69,1 % girls. The lack of free time prevents systematic motor activity in general 59,5 % of students of high school age. Among boys the mentioned figure was 52 %, while among girls it was significantly higher and amounted to 66,6 %.

The workload and lack of free time as factors influencing physical activity of students are interconnected, because in many ways determine each other. The increase of time for training sessions in schools and need to do homework, certainly reduces the limits of entertainment, which is a favorable period for various forms of physical activity.

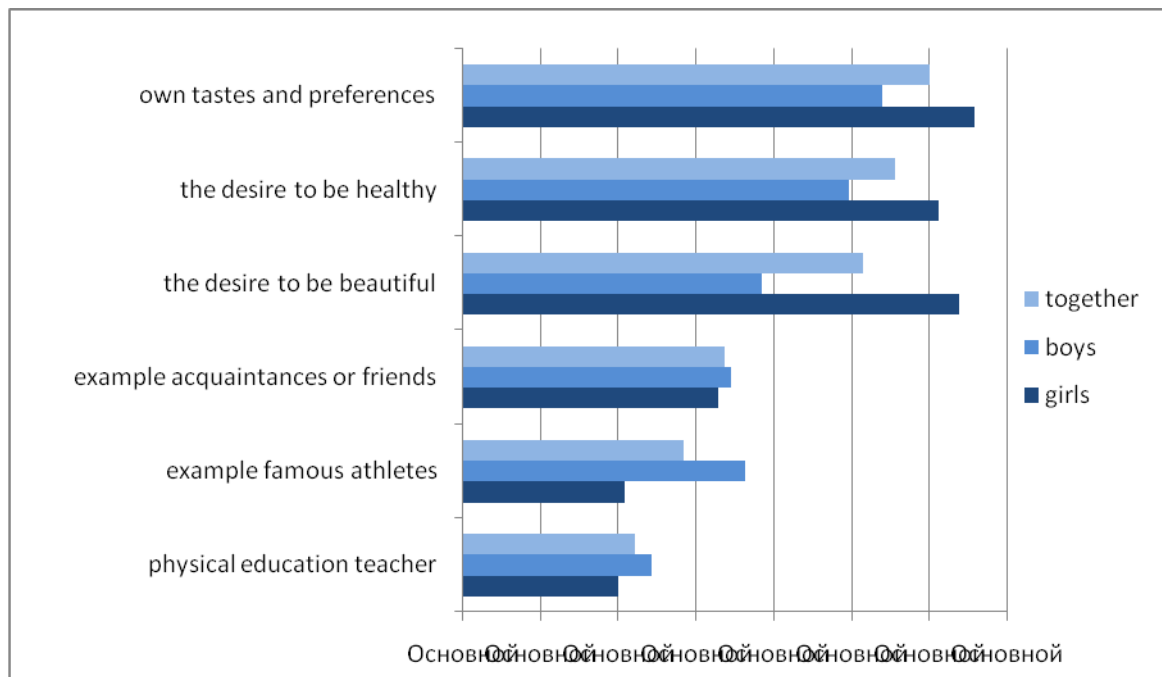
The third significant the factor in systematic physical activity of students of high school age was the need to implement relevant activities with friends, acquaintances or family. This indicated 21% of the students, the differences between girls and boy's indicators were not significant and amounted to 0,7 %.



**Fig. 1.** Factors that Hinder Systematic Motor Activity of Secondary School Students Aged 15–17 years (%), n = 926

therefore, we can conclude that the 1/5 of high school students require different forms of group, to carry out systematic motor activities while the independent forms of physical activity, which is usually the most affordable, do not meet the preferences of students.

The deficiency of physical activity, which cannot cover forms of physical education, being performed during the school day, theoretically could compensate forms of physical activity performed in his spare time. Typically, individual free time spent on activities are related to obtaining some fun, entertainment and recreation. Clearly, not all students spend their leisure time to perform physical activity. That's why we tried to determine the factors that influence the decision of senior high school students to participate in various forms of motor activity in their free time (figure 2).



**Fig. 2.** Factors that Determine Physical Activity of Secondary School Students Aged 15–17 Years in Their Spare Time (%), n = 926

As shown in the figure, the main factor determining the physical activity of high school students in their spare time is «their own tastes and preferences», which were indicated by 59,9 % respondents. Among girls the figure was 12 % higher than boys and was 65,8 %.

Slightly more than half of respondents among (55,5 %) reported that their physical activity at leisure affects «the desire to be healthy / healthier». Again, listed option was popular among girls (61,1 %). The figure was 49,6 % among boys.

A large percentage of girls received the answer «the desire to be beautiful» (63,7 %). By this measure the difference in responses between girls and boys was salient and amounted to 25,3 %, while rates among boys was 38,4 %.

One factor that was important for children is «an example of well-known athletes», this indicated 36,2 % of male respondents. Among girls, the figure was lower by 15,4 % and amounted to 20,8 %.

It is necessary to stop another factor that affects the motor activity of students in free time. It is a teacher of physical culture. The results showed that overall only 22 % of high school age students, organizing their own physical activity at leisure, taking into account the activities of the teacher of physical culture. Considering physical education classes, as the main form of physical education, should determine all other forms of physical activity, poor performance ascertains the impact of school physical education on personal physical activity of students.

Time allows students to engage in a number of forms of physical activity. Along with organized forms, such as training in sports sections focus is at secondary school or classes in sections Coach, is the most affordable form of especially unorganized physical activity, which can be held on the open sports fields, parks, areas of leisure and so on. In this context, an important factor that may contribute to or interfere with motor activity are the weather conditions. Therefore, we found that seasons are the most convenient to perform motor activity of high school students. Responding to a question, respondents could specify one or more periods of the year (figure 3).

Quite expectedly the most convenient period to exercise the motor activity of high school students was chosen summer, this generally indicated 82 % of respondents. The choice of this season due to a number of factors, including: increasing the number of free time due to holidays, comfortable temperature, the opportunity to engage in various sports to outdoor sports fields of different types, to actively relax on the open water, increased duration of daylight.

Almost half of respondents (47,7 %) indicated that they are easy to engage in spring. Despite the fact that the weather conditions of spring and fall are fairly similar, the spring was a significant advantage over the autumn.

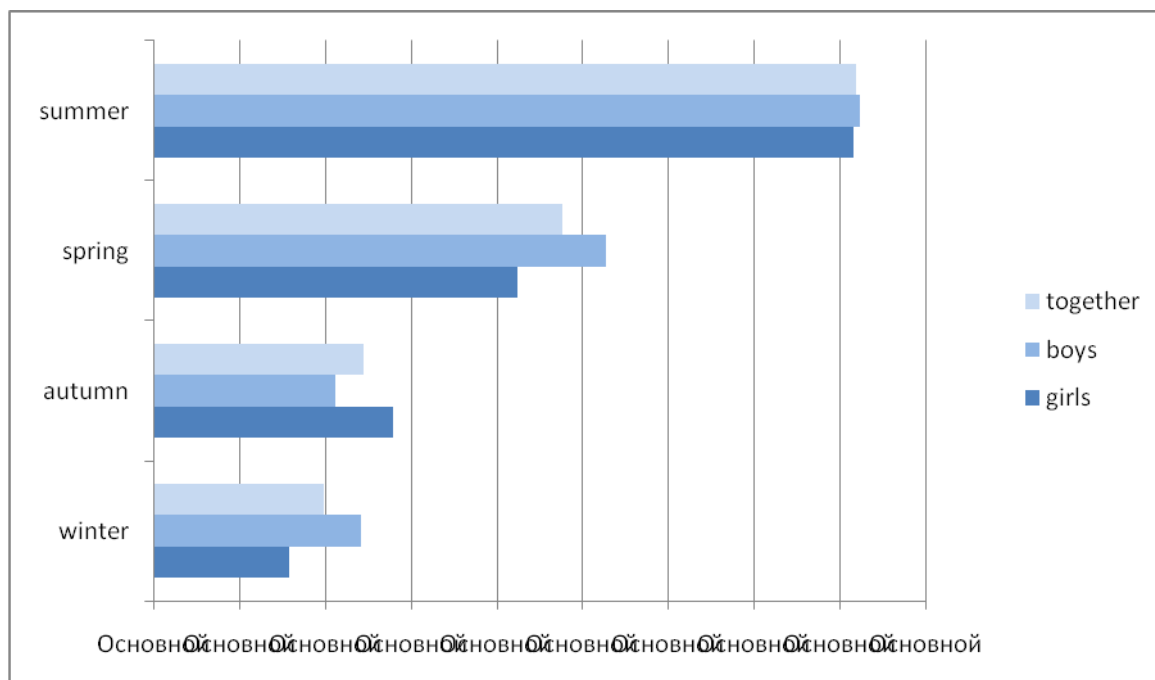


Fig. 3. The Most Convenient Period for the Implementation of Motor Activity Students of High School age (%), n = 926

The least popular among respondents was winter. Only 19,9 % of students in grades 10–11 considered that it is convenient for practicing physical activity in general. Along with the objective negative factors that accompany the winter and do not contribute to the implementation of a number of forms of motor activity (reducing the average daily temperature, reduce the length of daylight and adverse weather conditions) this season has its advantages. First of all, it comes during the holidays, which falls on this day, significantly increasing the amount of their free time, as well as the opportunity to engage in certain types of physical activity, which are not available in other periods of the year. These types of motor activity are definitely skiing and ski jumping, ice skating, hockey and others. Low winter popular among high school age students can be attributed to a certain decline of organized study of winter sports in physical education class and poor development of appropriate infrastructure that would allow these classes to provide sports.

As noted in the information presented in Figure 1, the factor which prevents systematic occupation of physical activity, is the inability to deal with friends or acquaintances for 21 % of the high school age student. For a third of surveyed students one of the reasons to engage in physical activity in leisure time is an example of peers (figure 2). That's why we tried to find out the importance of «collective factor» involved in the high school age students to various forms of physical activity. Understanding the impact of the environment on the choice of motor activity pupil allows a certain age, in our opinion, to optimize the list of forms of physical activity offered by the respective contingent of students in either school day and at leisure.

The results showed that students high school age most convenient to deal with friends or peers to which indicated 62 % of respondents (figure 4). Almost 30 % of students prefer self-employment physical activity.

A relatively small percentage of respondents (8,9 %) prefer joint sessions with parents or relatives. In our view, interest in joint sessions with family members proportionally has reduce from junior to senior school age, because of the peculiarities of mental processes and the difference in the level of physical fitness between parents and children.

**Conclusions.** The main factors that hinder systematic motor activity of high school students are excessive workload and lack of free time. Excessive workload negative factor considered 66,7 % of students, among them – 64,2 % of boys and 69,1 % girls. Deficit of free time is a factor that prevents systematic physical activity 59,5 % for high school age students. Among boys, the figure is 52 % among girls – 66,6 %.

The main factors that determine physical activity of secondary school students of the age 15–17 in spare time is «their own tastes and preferences» (59,9 %), «the desire to be healthy» (55,5 %) and «the desire to be beautiful» (51,4 %).

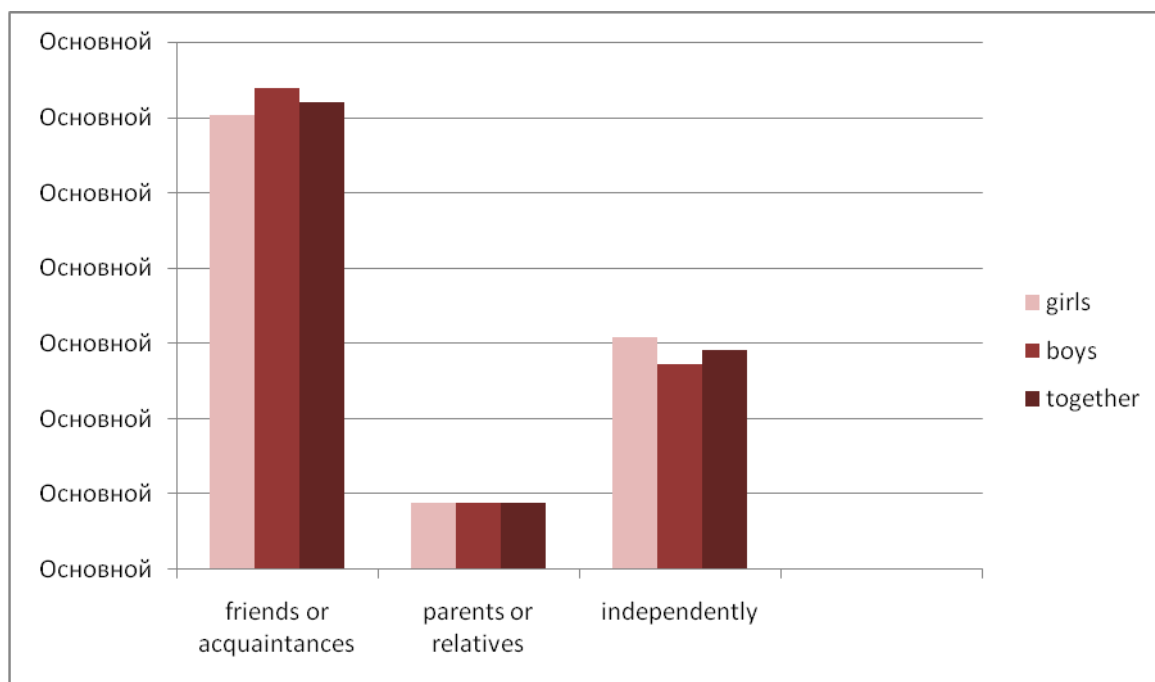


Fig. 4. Ease Exercise Motor Activity Based on «collective factor» (%), n = 926

The most convenient period for the motor exercises motor of high school students is summer, this was generally indicated by 82 % of respondents.

Most students of grades 10–11 (62 %) preferred pastime physical activity with friends or peers.

**Prospects for further research.** Further study of this subject should be directed to study the feasibility of the wishes of students of different age, for the organization of various forms of motor activity at the school day and at leisure. The study also needs ways to reduce the impact of negative factors that hinder the implementation of systematic physical activity.

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