

Serhii Hryshchuk^{1,2}

¹Zhytomyr Ivan Franko State University

²Zhytomyr Medical Institute of Zhytomyr Regional Council

THE HEALTH BENEFITS OF SPORT AND PHYSICAL EDUCATION

Summary

Using a questionnaire of 96 rural and urban schoolchildren aged 13-14 years was found that the dominant motivations for both groups are health (56%) and physiological (54%). Urban schoolchildren have a wider range of incentives to exercise than rural, they are significantly dominated by motor and psychological motivation. Urban boys have significantly higher indicators of motor, sports and psychological types of motivation, urban girls are dominated by motor, aesthetic, psychological motivation. According to the rating of the duration of 10 different types of physical activity of both groups, it was determined that in the first place are "sedentary" classes, while "active" activities occupy the last places.

Key words: motivation, motor activity, questionnaire, physical exercises, schoolchildren.

Introduction

According to many scientific studies, adequate physical activity is one of the main factors in maintaining health and comprehensive development of personality, which is especially true in children and adolescents, which are considered the most favorable periods for regular physical activity. However, it should be noted that in recent years, due to the fascination of schoolchildren with mobile gadgets and several other reasons, the decrease in physical activity begins in early school age, although psychological motivation to exercise is still quite high [1]. Among the possible causes of this phenomenon, scientists attribute the insufficient level of systematic and comprehensive work on the formation of motivation for physical education and physical activity in general in educational institutions [2]. The existing program of physical education of schoolchildren provides forms of organization of classes that can to some extent compensate for the deficit of motor activity that occurs in a busy general educational process. At school, such forms are physical education classes, sectional classes, and independent homework. But in real conditions there is only one form - a physical education

lesson, which is held three times a week [3]. The supplement is independent physical exercises, which are carried out spontaneously in the form of moving and sports games, physical work, which is more relevant for rural students, or classes in sports sections, which are mostly available to urban students. However, according to surveys, only 20-25% of students regularly go in for sports, and only about 7% of schoolchildren do homework in physical education [4].

The main prerequisite for involving students in regular exercise is the formation of their motivation for physical culture, the need for regular exercise and sports. In previous years, the system of physical education of schoolchildren was reduced to the implementation of average, mandatory and uniform for all requirements and standards, which contradicts the idea of an individual approach to the development and education of students, which is now implemented in the education system [5].

Modern approaches to the educational process and the formation of personality allow us to consider physical education as the most favorable for health, physical development, and self-improvement process of meeting the needs of students. If there is a sufficient level of needs, motives, and interests of students in physical culture and exercise, the values of physical culture are transformed into personal values of adolescents. Therefore, one of the ways to increase efficiency the process of physical education of schoolchildren is the formation of motivation for sufficient motor activity [6, 7].

Analyzing the data of special literature, it should be noted a small number of publications that clearly distinguish the influence of the factor of living in rural or urban areas on the formation of students' motivation for physical self-improvement, and regular exercise. However, in recent years, a few studies have been conducted with students where it is shown that the needs for physical activity have their age characteristics and are associated with the socio-economic living conditions of a particular family [8, 9, 10]. A detailed study of this issue will provide an opportunity to optimize physical culture and sports work with students, improve its organization in school and extracurricular time, which is one of the pressing problems of physical education in high school.

Aim, subject, and methods of research

The goal of the work was to conduct a comparative analysis of motivations for physical activity of rural and urban schoolchildren aged 13-14 years.

The subjects of the study were the types of motivations, factors influencing their formation, motor activity of students.

For study the needs, motives, and interests of schoolchildren to different types of physical activity, a special questionnaire was developed, which contained three parts:

introductory, basic, and demographic. For analyze the priority leisure activities of schoolchildren of both categories were offered 10 types of extracurricular activities, each of which they had to provide a rating in the context of the time spent on this type of activity, starting with 1 (most time) and ending with 10 (least time).

In the questionnaire, which concerned the identification of motivations for exercise, respondents were asked to choose no more than five categories out of ten. Motivations were formed based on the results of the literature review, each motivation corresponded to one variant of the stimulus chosen by the respondent, namely:

1. I want to strengthen and maintain health - health;
2. I want to increase the level of physical fitness - physiological (development of physical qualities);
3. I want to increase motor activity, I like the sensations after classes - motor;
4. I want to have a "beautiful" body - aesthetic;
5. I want to "be the first" during competitions - sports;
6. I want to get relief after mental stress - psychological;
7. required for enrollment of the standard, a good grade - administrative;
8. I want to know the capabilities of the organism - cognitive;
9. I want to learn to cultivate "willpower" - psychological endurance;
10. another option - other types.

Schoolchildren were asked to fill in the questionnaire in rural schools of Olevska district of Zhytomyr region and secondary school № 21 in Zhytomyr. 96 questionnaires were further processed, which were distributed as follows: urban schoolchildren - 60 questionnaires (24 boys and 36 girls), rural schoolchildren - 36 questionnaires (16 boys and 20 girls). The results were compared separately by categories (urban and rural students) and by gender (boys and girls).

Theoretical analysis and generalization of data of scientific literature, sociological research methods, pedagogical research methods, methods of mathematical statistics were used to solve the set tasks.

Research results

To find out the possible directions of motivation of middle school children to physical education lessons and to determine the ways of its formation, it is necessary to investigate what motivates and what guides children in their actions and desires in the conditions of educational activity. As we have already noted, the motivational sphere consists of several motivations that play different roles in the formation and at different stages of age development acquire importance. These motivations may differ depending on the place of residence of students

(village or city), so their knowledge will help teachers and parents to differentiate certain aspects of students' interest in exercise.

With the introduction of educational reform, the process of physical education with middle schoolchildren is based on the implementation of new approaches to the organization and conduct of physical education lessons at school and exercise in extracurricular activities. The task is to make active motor activity first sufficient, more meaningful, purposeful, which corresponds to the individual characteristics of everyone. In the case of the formation of full motivation to exercise there is an increase in the effectiveness of the system of physical education and the formation of a healthy lifestyle of schoolchildren. So, the search for optimal directions for the organization of physical activity of students, depending on their place of residence should be implemented both in the classroom and out-of-school forms of organizing the process of physical education. This is due to the fact that the opportunities for classes and additional sports or exercise, attending sports sections in the village and the city are significantly different.

It should be noted that the modern program in the discipline "Physical Culture" for pupils 5-9 grades is based on the implementation of the principle of variability, which involves planning educational material in accordance with age and gender characteristics of students, their interests, logistics, staffing, but these opportunities for rural and urban schoolchildren can have significant differences. Therefore, to determine the areas of optimization of motor activity of pupils and the formation of motivations for exercise, we conducted a survey of students in grades 7-8 on a specially designed questionnaire.

According to the results of the analysis of the survey results, it was found that most of the surveyed boys and girls of both categories have a positive attitude to physical education lessons. Among urban boys the indicator is $91.7 \pm 5.6\%$, rural boys - $81.3 \pm 9.8\%$. Among girls, the percentage of positive attitudes is slightly lower and is $77.8 \pm 6.9\%$ among urban girls and $75.0 \pm 9.7\%$ among rural girls. There is no significant difference in results between groups ($p > 0.05$). The largest share of those who do not like physical education classes was observed among rural girls ($20.0 \pm 8.9\%$) (Table 1).

At the next stage, to analyze the priority leisure activities of middle schoolchildren of both categories, we conducted a study aimed at rating the interest of adolescents in physical education and other types of employment by spending time on certain activities.

Table 1. Distribution of answers to the question: "Do you like physical education lessons?"

Answer option	Urban boys (n = 24)	Rural boys (n = 16)	p	Urban girls (n = 36)	Rural girls (n = 20)	p
	% of responses	% of responses		% of responses	% of responses	
So	91.7 ± 5.6	81.3 ± 9.8	> 0.05	77.8 ± 6.9	75.0 ± 9.7	> 0.05
No	4.2 ± 4.1	12.5 ± 8.3	> 0.05	16.7 ± 6.2	20.0 ± 8.9	> 0.05
I do not know	4.2 ± 4.1	6.3 ± 6.1	> 0.05	5.6 ± 3.8	5.0 ± 4.9	> 0.05

Source: Own survey based on conducted research

As a result of the analysis of the obtained data, it should be noted that the priorities of leisure activities of rural and urban students are significantly different. Urban students spend the most time "sitting" by the phone or computer, and among rural students this type of activity is in sixth place in priority. The dominant type of activity for rural teenagers is communication with friends, in urban children it ranks third. In second place in terms of time spent by urban students is watching TV or "YouTube", among rural this type of activity is in third place. A significant amount of time for urban students is spent on additional classes with tutors in various subjects (fourth place), while rural students this type of extracurricular activities is in seventh place (Fig. 1).

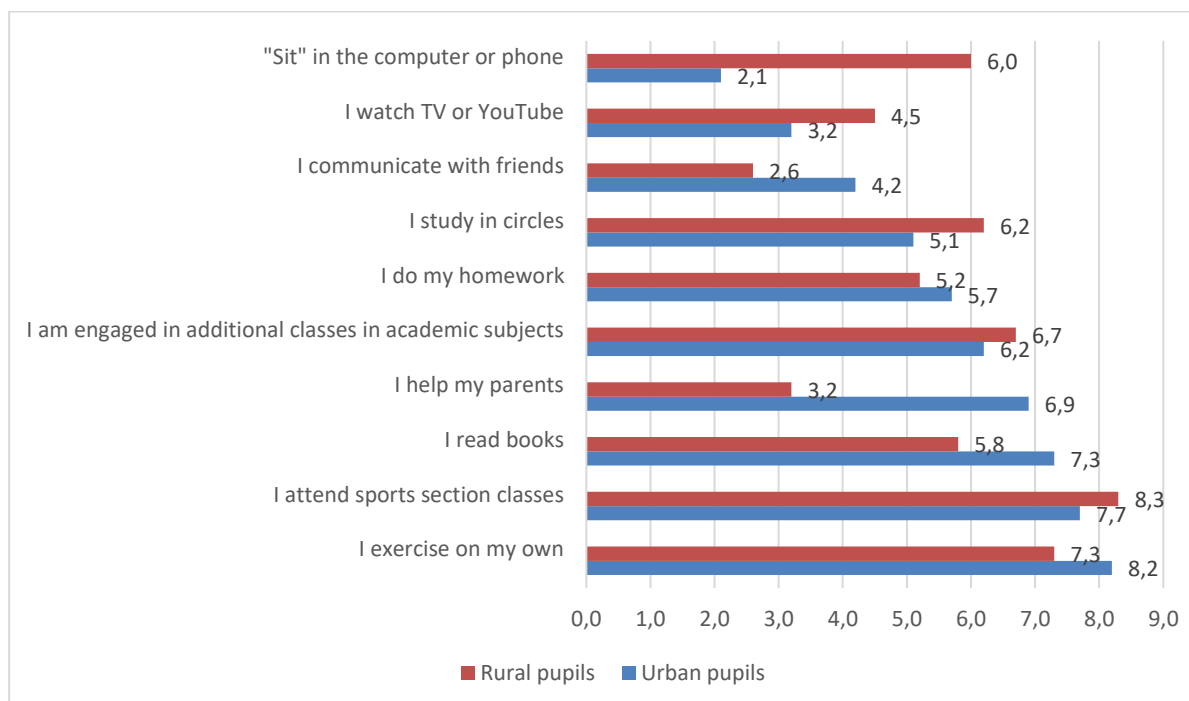


Figure 1. Comparative rating diagram of time spent by urban and rural students by individual types of extracurricular activities (ranking by the results of urban students)

Source: Own survey based on conducted research

In the middle places of the rating in both groups (5th place in urban children, fourth - in

rural) is the process of homework, which is usually devoid of physical activity.

The sixth ranking place among urban schoolchildren and the eighth place among rural students are occupied by time spent in classes in various fields.

There is a significant difference in the amount of time spent by adolescents in terms of the type of activity that is to help parents. It is in the seventh place among urban schoolchildren, and in the second place among rural schoolchildren.

Reading books by urban students ranks eighth in the survey, and rural students in this type of class is in fifth place.

Adolescents of both groups spend the least time on independent physical exercises or attending sports sections. Accordingly, these activities are in the last places in the ranking.

The results of the answers to this question of the questionnaire confirm the insufficient level of physical activity of children of both categories because the leaders in the ranking of time spent outside school are "sedentary" classes, while "active" activities occupy the last places.

Regarding the further study of the levels of motivation and general attitude to physical culture and sports of rural and urban students, it should be noted that school motivation, like any other, is determined by several specific factors, among which are the subjective characteristics of students (age, gender, intellectual development, abilities, self-esteem, interaction with other students, etc.); organization of the educational process; place of residence, educational institution where the educational process is carried out; subjective features of the teacher of physical culture, among which the system of his relations to the student, to work; specifics of the subject and a number of others.

The analysis of modern scientific research gave grounds to highlight the main motivations of adolescents for physical culture and sports, which we included in the questionnaire:

1. health - the desire to strengthen and maintain health - the most important motivation, achieved through the beneficial effects of exercise on the body;
2. motor - the desire to increase motor activity, during exercise in the human body there are changes in the activities of all systems, which improves physical condition and metabolism;
3. physiological - the desire to develop the physical qualities of the body, increase efficiency;
4. psychological - pleasure from the very process of exercise, which is associated with the release of adrenal hormones - adrenaline and noradrenaline;
5. sports - the desire to reach a certain level, to surpass in their sporting achievements of the opponent, is one of the powerful regulators;

6. aesthetic - is to follow the fashion for health, the desire to have a harmonious body, which is especially important in adolescence;

7. cognitive - the desire to know your body, its capabilities, is the desire to make the most of their physical capabilities, "to overcome themselves, their laziness".

8. administrative - is the desire to meet the standard or get a good grade on the subject;

9. endurance - the desire to learn to cultivate "willpower".

10. other types - these include options that have a narrow specific focus (for example, the desire to reduce weight).

For each of the above motivation options, we provided a relevant questionnaire, respondents chose from the available list of motivations most relevant to them (not more than 5). The results of the questionnaire were processed separately by article, as well as a comparison of motives in general between a group of rural and urban schoolchildren.

As for adolescent boys, students of both groups on the first place are physiological motivation - the desire to develop their physical qualities (chosen by more than 83% of respondents). On second place - health (chosen by more than 62% of respondents in both groups). Among urban schoolchildren, the third place is occupied by sports motivation (noted by 58.3%, which is 20.8% higher than the result of rural schoolchildren - 37.5%). It should be noted a high level of motor motivation, which confirms the above results regarding the lack of motor activity of students. Among urban students, the motor motivation rate was 54.2%, among rural students - 31.3%. It is also noted that the values of psychological and administrative motivation of urban schoolchildren are more than 15% higher than those of rural students. Indicators of other types of incentives in both groups do not exceed 20% (table 2).

Table 2. Comparative results of the analysis of motivations for physical exercises of urban and rural boys

Short name of motivation	Urban boys (n = 24), %	Rural boys (n = 16), %	The difference, %	p
Health	62.5 ± 9.9	62.5 ± 12.1	0.0	> 0.05
Physiological	83.3 ± 7.6	87.5 ± 8.3	-4.2	> 0.05
Motor	54.2 ± 7.1	31.3 ± 6.2	22.9	<0.05
Aesthetic	37.5 ± 9.9	31.3 ± 9.6	6.3	> 0.05
Sports	58.3 ± 6.1	37.5 ± 6.3	20.8	<0.05
Psychological	37.5 ± 7.2	18.8 ± 6.3	18.8	<0.05
Administrative	33.3 ± 9.6	18.8 ± 9.8	14.6	> 0.05
Cognitive	12.5 ± 6.8	18.8 ± 9.8	-6.3	> 0.05
Others	8.3 ± 5.6	12.5 ± 8.3	-4.2	> 0.05
Endurance	8.3 ± 5.6	12.5 ± 8.3	-4.2	> 0.05

Source: Own survey based on conducted research

At the next stage, we conducted a comparative analysis of motivations for exercise among urban and rural girls. The priority of health motivation was noted by 50.0% of rural schoolgirls and 55.6% of urban ones, which is slightly less than boys. The importance of physiological motivation was noted by about 33% of respondents in both groups, which is much less than in boys, where this figure exceeded 82%. As with urban boys, one of the dominant motivations of urban girls is motor, it was noted by 58.3% of respondents. This is significantly higher than the rate of rural girls ($p < 0.05$), which is 35.0%

Attention is drawn to a high rate of aesthetic motivation (the desire to have a better figure), compared to boys, which may be due to earlier sexual development. There was also a significant difference in the results ($p < 0.05$), its importance was noted by 47.2% of urban girls and for some reason only 25.0% of rural ones.

As with the boys, there is a significant difference between the groups in terms of psychological motivation ($p < 0.05$), which is the desire to "relax" after school. Among urban schoolgirls, 41.7% of respondents chose this option, among rural - only 15.0%. For other types of motivations, no significant differences were found (table 3).

Table 3. Comparative results of the analysis of motivations for physical exercises of urban and rural girls

Short name of motivation	Urban girls (n = 36), %	Rural girls (n = 20), %	The difference, %	p
Health	55.6 ± 8.3	50.0 ± 11.2	5.6	> 0.05
Physiological	33.3 ± 7.9	30.0 ± 10.2	3.3	> 0.05
Motor	58.3 ± 7.1	35.0 ± 6.2	23.3	<0.05
Aesthetic	47.2 ± 7.9	25.0 ± 7.7	22.2	<0.05
Sports	27.8 ± 7.5	20.0 ± 8.9	7.8	> 0.05
Psychological	41.7 ± 8.2	15.0 ± 8.0	26.7	<0.05
Administrative	25.0 ± 7.2	20.0 ± 8.9	5.0	> 0.05
Cognitive	13.9 ± 5.8	20.0 ± 8.9	-6.1	> 0.05
Others	13.9 ± 5.8	15.0 ± 8.0	-1.1	> 0.05
Endurance	5.6 ± 3.8	10.0 ± 6.7	-4.4	> 0.05

Source: Own survey based on conducted research

At the final stage of processing the results we conducted a combined comparative analysis of motivations for exercise by representatives of both sexes of urban and rural schoolchildren. It should be noted that urban schoolchildren noted a wider range of incentives to exercise compared to rural (a rating of more than 40% received six types of motivation, while among rural students there are only two) (table 4).

The dominant motivations for both groups of students are health (noted by about 57% of respondents) and physiological (important for 54% of students) motivation, the indicators are almost similar, there is no difference between the groups.

Motor motivation is a priority for urban students - said 56.7% of respondents, is in second place. This is 23.3% higher than the results of the survey of rural students, where the figure is 33.3% ($p < 0.05$). This confirms the lack of physical activity of urban students.

Table 4. Comparative results of the analysis of motivations for physical exercises of urban and rural adolescents

Short name of motivation	Urban schoolchildren (n = 60)	Rural schoolchildren (n = 36)	The difference, %	p
Health	58.3 ± 6.4	55.6 ± 8.3	2.8	> 0.05
Physiological	53.3 ± 6.4	55.6 ± 8.3	-2.2	> 0.05
Motor	56.7 ± 6.4	33.3 ± 7.9	23.3	<0.05
Aesthetic	43.3 ± 6.4	27.8 ± 7.5	15.6	> 0.05
Sports	40.0 ± 6.3	27.8 ± 7.5	12.2	> 0.05
Psychological	40.0 ± 6.3	16.7 ± 6.2	23.3	<0.05
Administrative	28.3 ± 5.8	19.4 ± 6.6	8.9	> 0.05
Cognitive	13.3 ± 4.4	19.4 ± 6.6	-6.1	> 0.05
Others	11.7 ± 4.1	13.9 ± 5.8	-2.2	> 0.05
Endurance	6.7 ± 3.2	11.1 ± 5.2	-4.4	> 0.05

Source: Own survey based on conducted research

Aesthetic motivation (desire to have a good body) is important for 43.3% of urban adolescents, among rural this figure is 27.8%. As for the sports incentive (the desire to get the best result, to be the first), it is a priority for 40.0% of urban residents and 27.8% of rural residents.

A significant difference in results between the groups was determined in terms of psychological motivation ($p < 0.05$), which we have already written above when comparing the performance of boys and girls. This type of motivation is important for 40.0% of urban students and 16.7% of rural students.

Conclusions

It was investigated by comparative analysis of motor activity of schoolchildren according to the questionnaire, that the rating of students by the duration of different types of extracurricular activities shows that in the first place are "sedentary" activities (games on a smartphone, computer, watching videos), while "active" activities (classes in sports sections, independent physical exercises) occupy the last places.

It was established as a result of a comparative analysis of priorities among ten types of motivations between urban and rural students that:

- the dominant motivations for both groups of students are health (noted by more than 56% of respondents) and physiological (important for 54% of students);
- urban students have a wider range of incentives to exercise (a rating of more than 40% received six types of motivation, while among rural students only two);
- motor and psychological motivations significantly dominate in urban schoolchildren;
- urban boys have significantly higher indicators of motor, sports and psychological types of motivation compared to rural ones, urban girls are dominated by motor, aesthetic, psychological motivation.

References

1. Moskalenko N. V. (2007) Suchasni pidkhody do orhanizatsii fizkulturno-ozdorovchoi roboty z ditmy shkilnoho viku [Modern approaches to the organization of physical culture and health work with school-age children]. Sports Bulletin of the Dnieper. - №1. - P. 16–21. [Москаленко Н. В. Сучасні підходи до організації фізкультурно-оздоровчої роботи з дітьми шкільного віку / Н.В. Москаленко // Спортивний вісник Придніпров'я. – 2007. – №1. – С. 16–21].
2. Arefiev V. H. (2014) Dyferentsiatsiia rozvyvalno-ozdorovchykh zaniat z fizychnoi kultury uchniv osnovnoi shkoly: teoriia i praktyka : monohrafiia [Differentiation of developmental and health classes from physical culture of primary school students: theory and practice : monograph]. Nat. ped. Univ. MP Dragomanova. - Kyiv: Center for Educational Literature, 196 p. [Арефьев В. Г. Дифференциация развивально-оздоровчих занятий с физической культуры учнів основної школи: теорія і практика [Текст] : монографія / В. Г. Арефьев; Нац. пед. ун-т ім. М. П. Драгоманова. – Київ : Центр учбової літератури, 2014. – 196 с.]
3. Krutsevych T. Yu. Ishchenko O. S., Imas T. V. (2014) Motyvatsiia uchniv 6 – 9 klasiv do urokiv fizychnoi kultury [Motivation of students of 6th - 9th grades to physical education lessons]. Sportivnyi visnyk Prydniprov'ya. - Dnipropetrovsk. - №2. - P. 68–72 [Круцевич Т. Ю. Мотивація учнів 6 – 9 класів до уроків фізичної культури / Т. Ю. Круцевич, О. С. Іщенко, Т. В. Імас // Спортивний вісник Придніпров'я . – Дніпропетровськ, 2014. – №2. – С. 68–72].
4. Harlinska A., Liashevych A., Chernukha I., Korniiichuk N., Hryshchuk S. (2019) Pidvyshchennia rivnia fizychnoi pidhotovlenosti shkoliariv serednoho viku z vykorystanniam kompleksu spetsialnykh fizychnykh vprav [Raising the level of physical

- fitness of middle-aged schoolchildren using a set of special physical exercises]. Physical culture, sports, and health of the nation: a collection of scientific papers. Vol. 8 (27), p. 31-36. [Гарлінська А., Ляшевич А., Чернуха І., Корнійчук Н., Грищук С. Підвищення рівня фізичної підготовленості школярів середнього віку з використанням комплексу спеціальних фізичних вправ / Фізична культура, спорт та здоров'я нації: збірник наукових праць. Вип. 8 (27). Житомир: Вид-во ЖДУ ім. І. Франка, 2019. С. 31-36].
5. Krutsevych T.Iu. Teoriia i metodyka fizychnoho vykhovannia. Zahalni osnovy teorii i metodyky fizychnoho vykhovannia [Theory and methods of physical education. General foundations of the theory and methods of physical education in 2 volumes]. - Vol. 1. - 392 p. [Теорія і методика фізичного виховання. Загальні основи теорії і методики фізичного виховання у 2-х т. За ред. Т.Ю. Круцевич. – Т. 1. – 392 с.].
 6. Bobrovnyk V. O. S.M. Hryshchuk (2021) Analiz motyvatsii do zaniat fizychnymy vpravamy miskyykh ta silskykh shkoliariv [Analysis of motivation for physical exercises for urban and rural schoolchildren]. Biological research - 2021: a collection of scientific papers. - Zhytomyr, PE "Euro-Volyn". - P. 361-362. [Бобровник В. О. Аналіз мотивації до занять фізичними вправами міських та сільських школярів / В. О. Бобровник, С.М. Грищук // Біологічні дослідження – 2021: збірник наукових праць. – Житомир, ПП "Євро-Волинь": 2021. - С. 361-362].
 7. Vorona V. V. (2010) Motyvatsiia shkoliariv 5—9 klasiv do zaniat fizychnoiu kulturoiu v zymovyi period [Motivation of schoolchildren of 5—9 classes to physical culture classes in the winter period]. Theory and methods of physical education. - № 8. - P. 13-16. [Ворона В. В. Мотивація школярів 5—9 класів до занять фізичною культурою в зимовий період / В. В. Ворона // Теорія та методика фізичного виховання. - 2010. - № 8. - С. 13-16].
 8. Bezverkhnia H.V. (2004) Motyvatsiia do zaniat fizychnoiu kulturoiu i sportom shkoliariv 5 – 11 klasiv: dys. na zdobuttia nauk. stupenia kand. nauk z fizychnoho vykhovannia i sportu [Motivation for physical education and sports for students of 5 - 11 classes: dis. for science. degree of Cand. Sciences in Physical Education and Sports]. Lviv, 2004. - 258 p. [Безверхня Г.В. Мотивація до занять фізичною культурою і спортом школярів 5 – 11 класів: дис. на здобуття наук. ступеня канд. наук з фізичного виховання і спорту / Г.В. Безверхня. – Львів, 2004. – 258 с.].
 9. Lysiak V. M. (2006) Formuvannia interesu do zaniat fizychnoiu kulturoiu ta sportom u shkoliariv 6–11-kh klasiv : avtoref. dys. na zdobuttia nauk. stupenia kand. nauk z fiz. vykh. i sportu [Formation of interest in physical culture and sports for schoolchildren of 6-11 grades: author's ref. dis. for science. degree of Cand. Sciences in Phys. out and sports].-

Kharkiv - 21 p. [Лисяк В. М. Формування інтересу до занять фізичною культурою та спортом у школярів 6–11-х класів : автореф. дис. на здобуття наук. ступеня канд. наук з фіз. вих. і спорту / В. М. Лисяк. – Х., 2006. – 21 с.]

10. Bulhakov O. I. (2013) Formuvannia fizychnoi kultury osobystosti uchniv zasobamy fizkulturno-ozdorovchikh zakhodiv u rezhymi navchalnoho dnia [Formation of physical culture of students' personality by means of physical culture and health-improving measures in the mode of educational day]. Kharkiv.- 20 p. [Булгаков О. І. Формування фізичної культури особистості учнів засобами фізкультурно-оздоровчих заходів у режимі навчального дня : автореф. дис на здоб. наук. ступеня канд. наук з фіз. вих. та спорту / Булгаков О.І. – Х., 2013. – 20 с.].