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THE ROLE OF ACTIVITY-RELATED GAMES IN PHYSICAL EDUCATION OF SCHOOL-AGE CHILDREN

Annotation

The article discusses the impact of activity-related games on the physical development of school-age children. The purpose of the study is to identify the features of the dynamics of the main physical qualities of students under the influence of activity-related games, taking into account age and sex differences. School-age children, divided into age groups, took part in the pedagogical experiment. Activity-related games included in the structure of training sessions were used as the main means of pedagogical influence. The level of physical fitness was assessed by pedagogical testing aimed at determining the indicators of speed, endurance, explosive strength and strength endurance. The growth factor was used to analyze the changes. The results of the study show that the most pronounced positive dynamics are observed in general and strength endurance indicators, especially in children of age groups, while speed properties and explosive strength are characterized by an average growth rate. The results confirm the effectiveness of activity-related games as a means of developing the functional and strength components of physical culture of students and justify the need to combine them with specialized exercises for complex physical development.

Keywords: activity-related games, physical education, schoolchildren, physical fitness, endurance, strength endurance, explosive power, speed.

Introduction. Physical education for school-age children is one of the priority areas of both the educational system and physical education. Contemporary educational conditions are characterized by a decrease in children's physical activity levels, an increase in the amount of time spent in sedentary positions, and a growing prevalence of functional disorders associated with physical inactivity. In this context, the search for effective and pedagogically appropriate means of organizing physical activity for schoolchildren during and after school hours has become increasingly important.

One of the most accessible and motivationally significant means of physical education is the use of activity-related games. Such games provide diverse forms of motor activity, contribute to the development of a sustained interest in physical education classes, and facilitate the comprehensive development of fundamental physical qualities. Unlike strictly regulated exercises, activity-related games create favorable conditions for natural motor activity, emotional engagement, and social interaction among children.

The findings of contemporary studies demonstrate the high effectiveness of game-based interventions in enhancing general endurance, strength endurance, and basic motor skills in school-age children, whereas their impact on speed-related abilities appears to be more limited in nature [1-3]. At the same time, in domestic and regional educational practice, empirical studies aimed at quantitatively assessing the influence of activity-related games on the dynamics of specific physical qualities through growth-rate analysis and age-group comparisons remain insufficiently represented.

Therefore, investigating the role of activity-related games in the physical development of school-age children using objective indicators of physical fitness and analyzing age- and gender-related characteristics of adaptation to game-based motor activity is highly relevant. The purpose of the present study is to determine the influence of activity-related games on the dynamics of the main physical qualities of schoolchildren. The research hypothesis is based on the assumption that the systematic use of activity-related games in the physical education process contributes to a more pronounced development of endurance and strength endurance among schoolchildren compared to speed and speed-strength abilities, with the greatest effect expected among younger age groups.

International data continue to confirm the effectiveness of structured physical activity classes in improving children's physical education and their motor development. Research by Logan and co-authors (2012) showed that movement-based classes significantly improve the basic motor skills and general physical fitness of children [4]. Garcia-Hermoso et al. (2020) reported that school physical education programs have a positive effect on the results of physical education in connection with the health, muscle strength and motor development of young people. In addition, Grossten and Illi-Piipari (2019) showed that long-term participation in school physical education programs increases the moderate to intense level of physical activity and has a positive effect on children's physical activity and gives them pleasure [5-6].

Methods and materials. The study was conducted at a sports school. School-age children of both sexes participated in the pedagogical experiment. The total sample consisted of 50 participants, including 28 girls and 22 boys. According to their year of birth, the participants were divided into the following age groups: girls born in 2010–2012 (13-15 years old), 2013 - 2015 (10-12 years old), and 2016 - 2018 (7-9 years old); boys born in 2009–2012 (12-15 years old) and 2013–2015 (10-12 years old). All participants had no medical contraindications to participation in physical education and sports activities. Parents or legal guardians were informed about the objectives and procedures of the study and provided their consent for participation.

Activity-related games were used as the primary means of pedagogical intervention and were incorporated into the structure of the educational and training sessions. The games were selected with consideration of the children's age-related characteristics and were aimed at developing endurance, strength endurance, movement coordination, and speed-strength abilities. A set of complementary research methods was employed to address the objectives of the study.

The analysis of scientific and methodological literature was conducted to examine the current state of research on the physical education of schoolchildren, to determine the role of activity-related games in the development of physical qualities, and to justify the selection of indicators and assessment methods for evaluating children's physical fitness.

A pedagogical experiment was carried out over a period of 10 weeks during one academic semester. Training sessions were conducted two to three times per week within the regular educational and training process. This duration is methodologically justified and widely used in studies of schoolchildren's physical education, as it enables the identification of stable changes in physical fitness indicators without creating a risk of excessive physical нагрузка. The experiment was conducted under natural educational and training conditions and included three stages: initial assessment of physical fitness levels, implementation of the training program incorporating activity-related games, and final assessment at the end of the experimental period.

Standardized and widely accepted tests were used to assess physical fitness. Speed abilities were evaluated using the 30-meter sprint and the 3 × 10 m shuttle run. Endurance was assessed by the distance covered during a 5-minute run. Explosive strength was measured using the standing long jump and vertical jump tests. Strength endurance was evaluated through the pull-up test, while upper-body muscular strength was assessed using the seated medicine ball throw (2 kg).

The tests were administered under identical conditions during both the initial and final assessments to ensure the reliability and comparability of the results. To evaluate changes in physical fitness indicators over the course of the study, growth rates were calculated. The growth rate served as the primary indicator of the dynamics of physical fitness development and was determined using the following formulas:

- for indicators, where an increase in value reflects an improvement in the result (formula (1)):

$$K = \frac{X_{control} - X_{input}}{X_{input}} \quad (1)$$

- for indicators, where a decrease in time reflects an improvement in the result (formula (2)):

$$K = \frac{X_{input} - X_{control}}{X_{input}} \quad (2).$$

The use of two formulas was necessitated by the need to ensure a correct interpretation of improvements in the test results. Statistical processing of the obtained data was performed using descriptive statistical methods and the Microsoft Excel software package. Mean values of the indicators and growth rates were calculated, allowing for the assessment of changes in the physical fitness of schoolchildren over the course of the study. The results are presented in the form of tables and graphs.

The lesson program included specially selected activity-related games aimed at developing various physical qualities. Games such as relay, spot games and "catch the leader" were used to improve speed and coordination. To develop endurance, games such as the continuous running relay, treasure hunt and team chase were used. Strength endurance was developed through activities such as tug of war, playing with obstacles and resistance training in a game format with a partner. Each exercise lasted 45-60 minutes, the game block of which took 20-25 minutes. During one lesson, 3-5 activity-related games were held, depending on the goals of the lesson and the age characteristics of the participants. The intensity of the exercises was maintained at a moderate and intense level, corresponding to about 60-75% of the maximum age of the heart rate, which provided a sufficient physiological load without overwork.

Restrictions. One of the methodological limitations of this study is the absence of a separate control group, which may reduce the possibility of direct comparison with alternative physical education activities. However, the design of the study included an initial and final diagnostic assessment, a comparative analysis of growth coefficients, a comparison of age and gender, and a correlation analysis between key fitness indicators, which significantly increased the analytical reliability of the results.

It should also be noted that the explanation of the effectiveness of interventions in Physical Education Studies in schools is multifactorial. Positive changes in physical culture can be influenced not only by activity-related games, but also by age-related physiological development, parallel physical activity, general training conditions and other environmental factors. In future studies, it may be useful to include control groups and multi-factor statistical models to more accurately determine the exact proportion of activity-related games.

Results and discussion. The dynamics of physical fitness among school-age children were analyzed during the study using growth rates calculated on the basis of data obtained from the initial and final assessments. The following key physical qualities were evaluated: speed, endurance, explosive strength, and strength endurance.

The growth rate coefficient (K) was used to assess changes in physical fitness indicators, making it possible to compare improvements across tests measured in different units.

The results indicate that speed abilities demonstrated only minimal positive changes across all age groups, confirming their relatively low sensitivity to game-based forms of motor activity over a short-term intervention period. Figure 1 presents a comparison of the dynamics of speed development among girls and boys in different age groups.

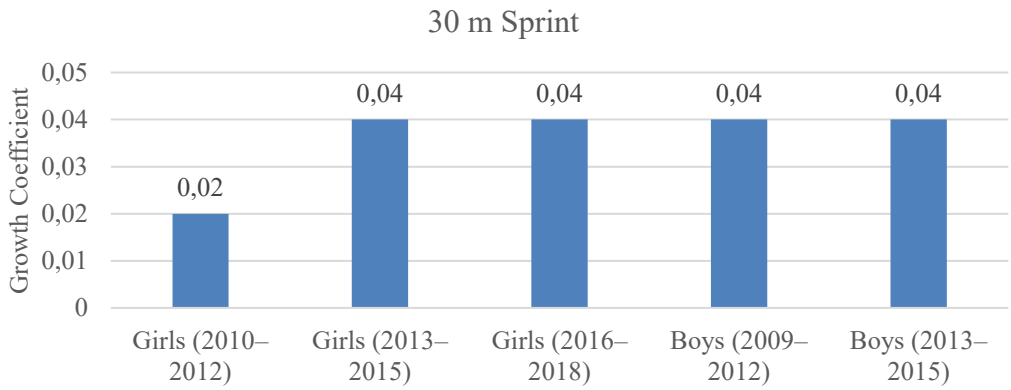

Figure 1. Growth rate of speed indicators (30 m sprint test) among schoolchildren in different age
Source: compiled by the authors based on data from author-designed questionnaires and observations

The greatest improvement in shuttle run performance was observed among girls born between 2013 and 2015. In contrast, the youngest group of girls demonstrated less stable dynamics, which may be attributed to the specific characteristics of coordination development at this age. Figure 2 illustrates the comparative dynamics of shuttle run performance among girls in different age groups.

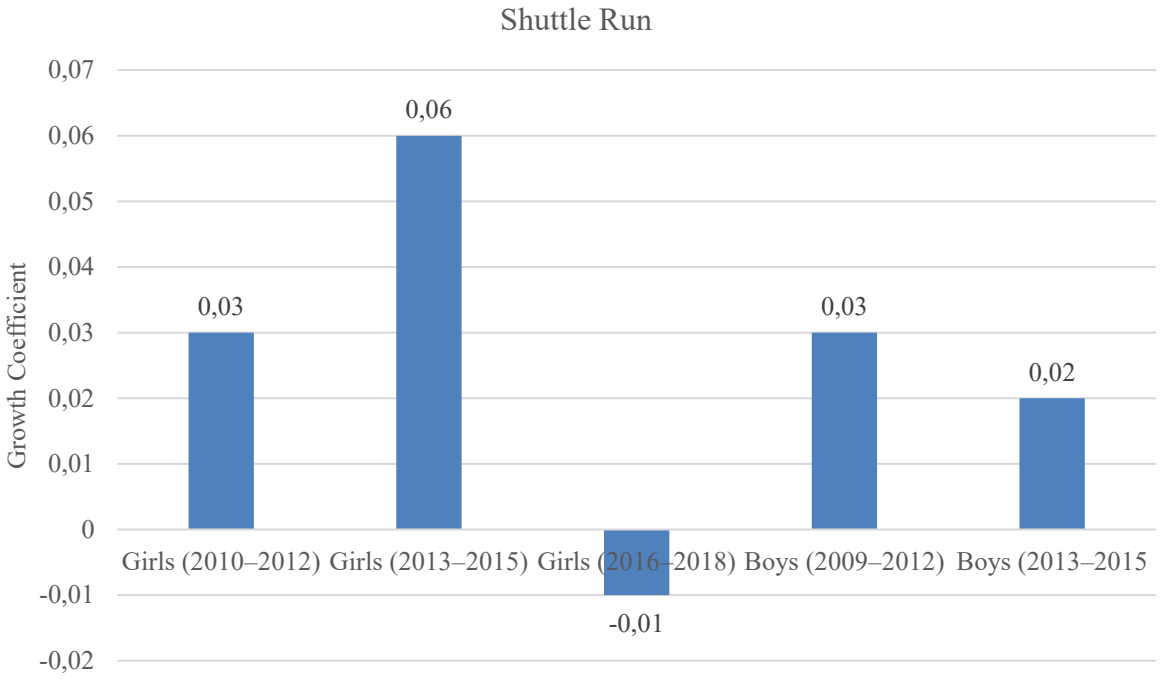

Figure 2. Dynamics of growth rates in the 3 × 10 m shuttle run performance among school-age children
Source: compiled by the authors based on data from author-designed questionnaires and observations

The highest growth rates were observed in endurance, particularly among the younger age groups, indicating the high effectiveness of aerobic activity-related games in enhancing the endurance capacities of school-age children (Figure 3).

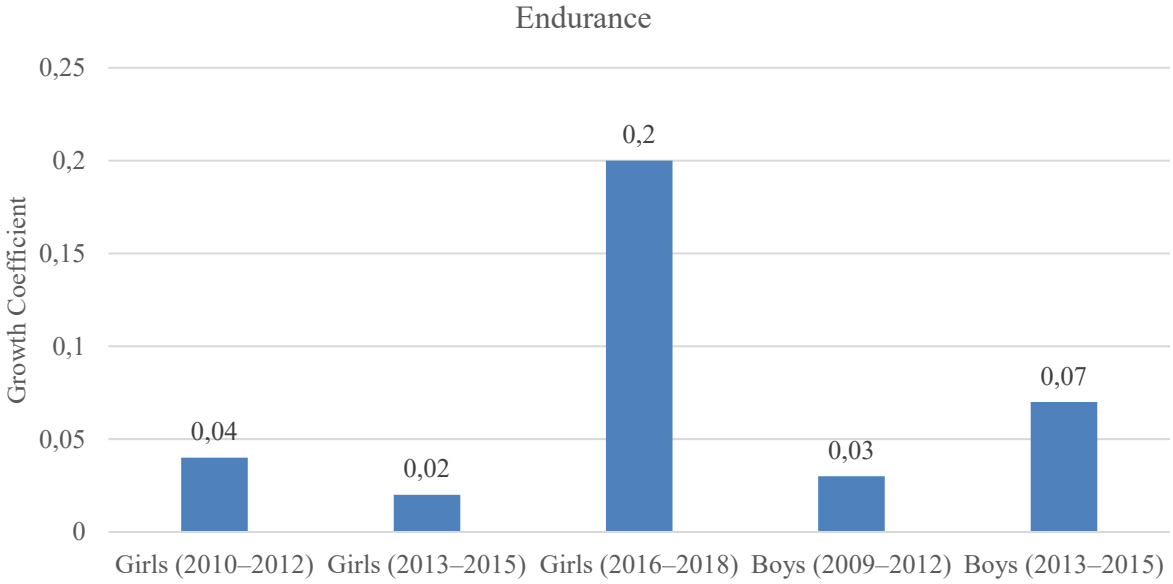

Figure 3. Data on the growth rate of general endurance among schoolchildren
Source: compiled by the authors based on data from author-designed questionnaires and observations

The development of explosive strength demonstrated stable, yet moderate, positive dynamics across all age groups, irrespective of gender (Figure 4).

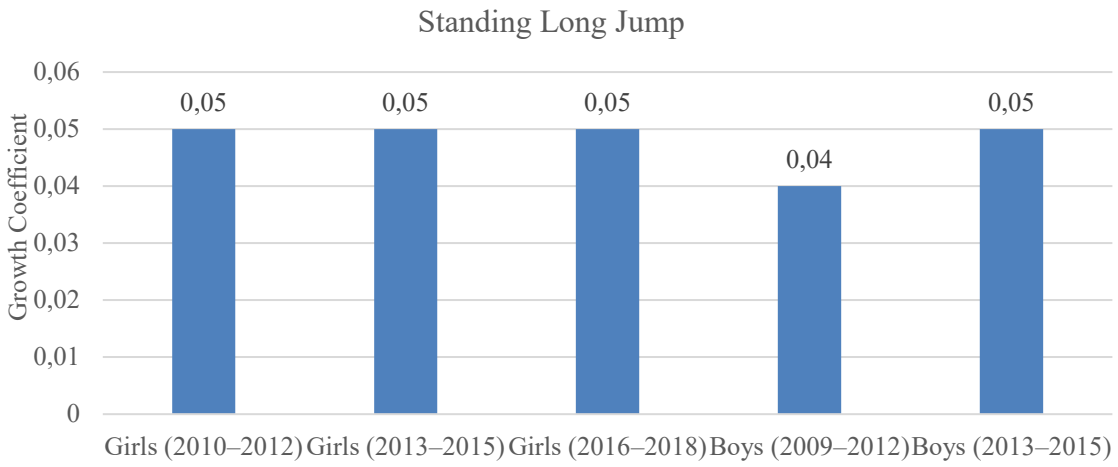

Figure 4. Data on the growth rate of explosive strength among schoolchildren (standing long jump test)
Source: compiled by the authors based on data from author-designed questionnaires and observations

The highest growth rates in strength endurance were observed in the younger and middle age groups, which may be attributed to their greater adaptation to exercises involving body weight resistance (Figure 5).

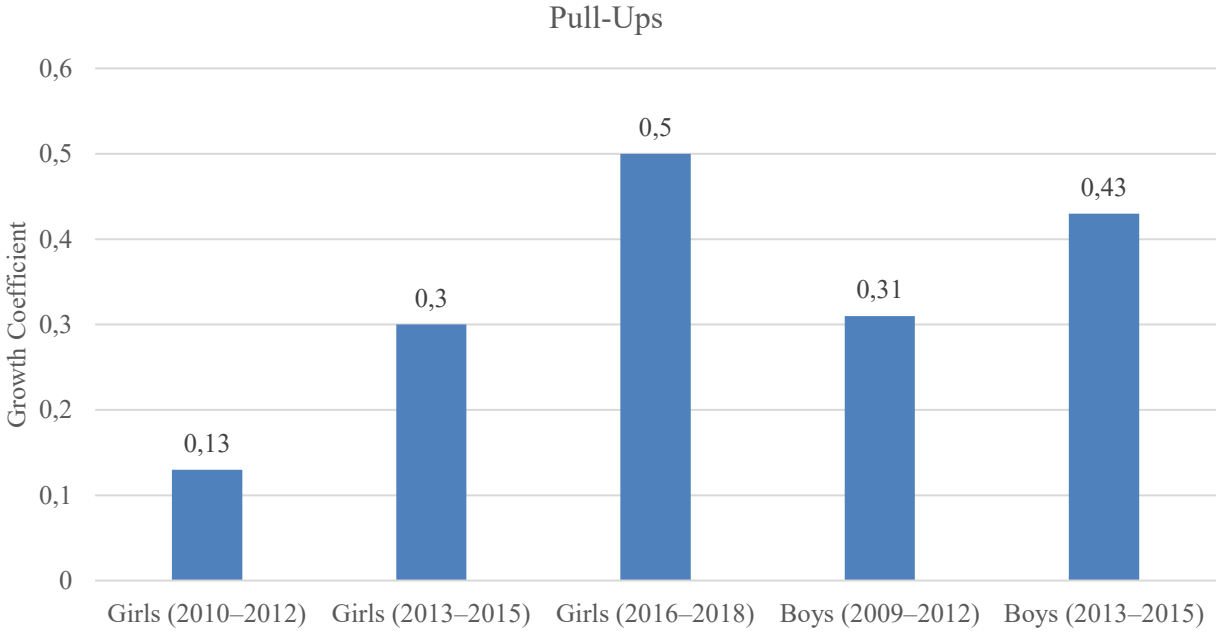

Figure 5. The growth rate data of strength endurance at schoolchildren
Source: compiled by the authors based on data from author-designed questionnaires and observations

The integral dynamics of physical qualities was analyzed to provide a comprehensive assessment of overall changes in physical fitness indicators. The integral evaluation of the dynamics of physical qualities (Figure 6) revealed that the highest training responsiveness under conditions involving activity-related games was observed in strength endurance and general endurance indicators. The most pronounced growth rates were recorded among children in the younger age groups, indicating a high adaptive capacity of the body during this developmental period.

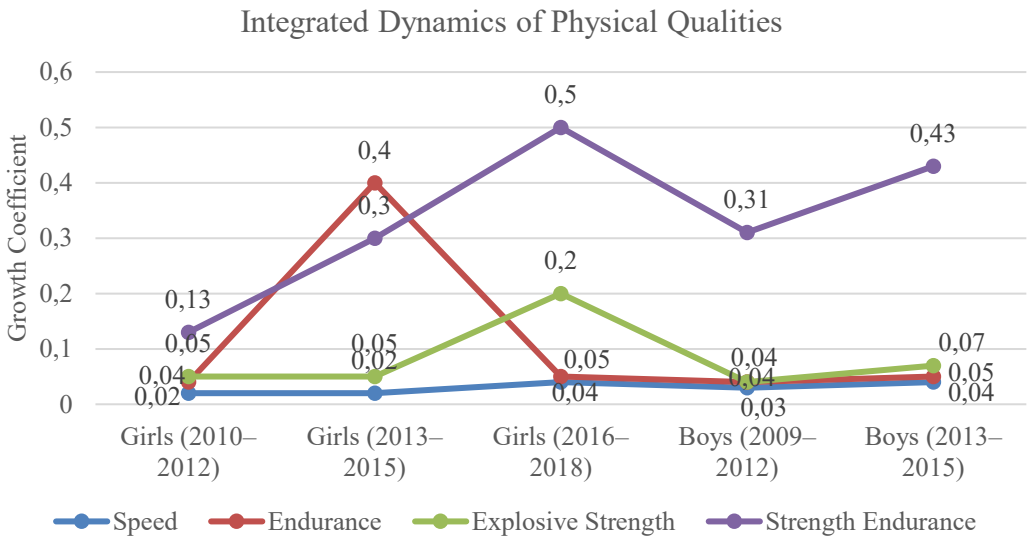

Figure 6. Integral dynamics of the growth rates of physical qualities among schoolchildren
Source: compiled by the authors based on data from author-designed questionnaires and observational results

The above integral graph reflects the comparative dynamics of speed qualities, endurance, explosive strength, and strength endurance among girls and boys of different age groups.

Speed qualities demonstrated the lowest growth rate values across all observed groups. The improvement in 30 m sprint and 3×10 m shuttle running performance was characterized by moderate dynamics, regardless of gender and age. This indicates the limited effectiveness of activity-related games in developing speed abilities within a short-term period of pedagogical intervention.

The indicators of explosive strength were characterized by stable, yet moderate, growth rates across all age groups. The obtained data indicate a consistent development of this physical quality without significant age-related fluctuations, confirming the universal nature of jumping exercises incorporated into gaming activities.

The highest growth rates were observed in the indicators of strength endurance, particularly among younger age groups of both boys and girls. This finding is supported by the integral analysis of endurance and strength endurance ratios (Figure 7), which demonstrates the dominant contribution of strength endurance to the overall increase. Such dynamics can be explained by the high sensitivity of the children's musculoskeletal system to body-weight resistance exercises implemented through activity-related games.

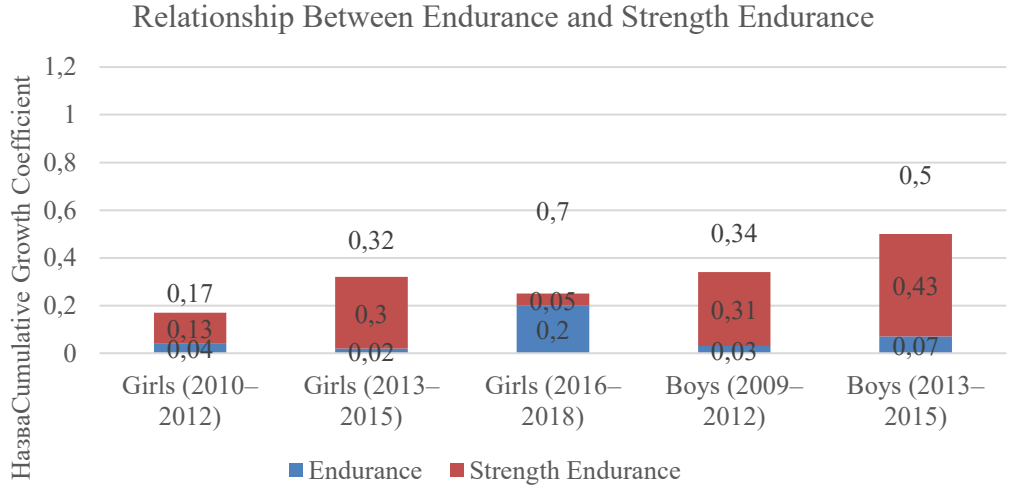

Figure 7. The ratio of the growth rates of endurance and strength endurance among schoolchildren
Source: compiled by the authors based on data obtained from author-designed questionnaires and observations

The above integral graph reflects the predominance of functional and strength adaptations within the structure of children's overall physical development.

Thus, the findings of the study confirm that activity-related games have the most pronounced effect on the development of endurance and strength endurance among schoolchildren, whereas speed abilities and explosive strength develop at a more moderate rate. The obtained results indicate the feasibility of using activity-related games as an effective means of ensuring the comprehensive physical development of school-age children.

To identify the relationships between the main components of physical fitness, a correlation analysis was conducted using Pearson's correlation coefficient (Table 1).

Table 1. Correlation matrix (Pearson's r)

Indicator	Speed (30 m)	Endurance (5 min)	Long jump	Pull-ups	Ball throw
Speed (30 m)	1.00	-0.44	-0.78	-0.41	-0.78
Endurance (5 min)	-0.44	1.00	0.73	0.07	0.29
Long jump	-0.78	0.73	1.00	0.21	0.67
Pull-ups	-0.41	0.07	0.21	1.00	0.38
Ball throw	-0.78	0.29	0.67	0.38	1.00

Source: compiled by the authors

Interpretation of the main correlations:

- Speed – standing long jump: r = -0.78 (strong correlation).

The negative value of the correlation coefficient is explained by the fact that a shorter running time indicates a better performance result, while a greater jumping distance reflects higher explosive strength. This indicates that children who demonstrate higher speed abilities in the 30 m sprint tend to have greater explosive power.

- Endurance – standing long jump: r = 0.73 (strong positive correlation).

Children with higher levels of aerobic endurance demonstrate better results in standing long jump performance, indicating a positive relationship between endurance capacity and explosive strength development.

- Standing long jump – ball throw: r = 0.67 (notable correlation).

This correlation indicates the relationship between explosive strength and general strength fitness, reflecting the contribution of overall physical strength development to performance outcomes.

- Endurance – pull-ups: r = 0.07.

There is virtually no correlation between these indicators. This finding is logical, as pull-ups primarily assess upper-body strength endurance, whereas running performance mainly reflects aerobic endurance capacity.

Pearson's correlation coefficients were subsequently calculated separately for girls (n = 28) (Table 2) and boys (n = 22) (Table 3) based on the results of the baseline assessment. The following indicators were included in the analysis:

Speed – 30 m sprint;

Endurance – 5-minute run;

Explosive strength – standing long jump;

Strength endurance – pull-ups;

Upper-body strength – 2 kg medicine ball throw.

Table 2. Correlation matrix (girls)

Indicator	Speed	Endurance	Jump	Pull-ups	Throw
Speed	1.00	-0.44	-0.78	-0.41	-0.78
Endurance	-0.44	1.00	0.73	0.07	0.29
Jump	-0.78	0.73	1.00	0.21	0.67
Pull-ups	-0.41	0.07	0.21	1.00	0.38
Throw	-0.78	0.29	0.67	0.38	1.00

Source: developed by the authors

Table 3. Correlation matrix (boys)

Indicator	Speed	Endurance	Jump	Pull- ups	Throw
Speed	1.00	-0.84	-0.79	-0.66	-0.67
Endurance	-0.84	1.00	0.91	0.62	0.61
Jump	-0.79	0.91	1.00	0.53	0.63
Pull-ups	-0.66	0.62	0.53	1.00	0.76
Throw	-0.67	0.61	0.63	0.76	1.00

Source: compiled by the authors

The correlation analysis revealed differences in the patterns of relationships between physical abilities among boys and girls.

In girls, the most pronounced correlations were identified between speed and speed-strength indicators (30 m sprint and standing long jump; r = -0.78), as well as between endurance and explosive strength (r = 0.73).

A higher degree of interrelationship between physical abilities was observed among boys. The strongest correlations were found between general endurance and explosive strength indicators (r = 0.91), as well as between strength endurance and upper-body strength (r = 0.76).

The obtained results indicate a more pronounced integration of the functional and strength components of physical fitness among boys.

The data obtained in the study demonstrate the heterogeneous effects of activity-related games on different components of schoolchildren's physical fitness. The most significant positive effect was observed in the development of general endurance and strength endurance, while a moderate effect was identified in the development of explosive strength. In contrast, changes in speed abilities were minimal.

This differentiation of effects is generally consistent with contemporary scientific perspectives on the influence of school-based and game-based forms of physical activity, which effectively contribute to increasing the overall volume of physical activity and improving cardiorespiratory endurance, but have a limited impact on speed development in the absence of specialized training interventions.

The research results are consistent with meta-analysis data and systematic reviews, indicating that school-based interventions, including outdoor and game-based programs, contribute to a sustainable increase in moderate-to-vigorous physical activity (MVPA – Moderate-to-Vigorous Physical Activity) and have a positive impact on aerobic endurance indicators among children and adolescents, provided that the interventions are implemented regularly and with an adequate training load dosage. The particularly pronounced increase in endurance observed in younger age groups confirms the conclusions regarding the high sensitivity of the cardiorespiratory system of primary school-aged children to increased levels of physical activity [7].

The literature also demonstrates that game-based programs aimed at developing fundamental motor skills have a moderate but statistically significant effect on overall physical fitness and motor development in children. This finding explains the positive dynamics of explosive strength and

general motor coordination identified in the present study, particularly among younger age cohorts [8]. Of particular interest are the findings of studies focused on active video games and digital gaming technologies, which, when properly organized, can increase physical activity levels and improve indicators of cardiorespiratory fitness. These findings partially correspond with the results obtained in the present study regarding endurance development [9].

The significant growth rate of endurance, particularly in the pull-up test, may be attributed to the adaptation of the muscular system to regular game-based physical loads, including activities involving body-weight resistance exercises. Modern studies confirm that adaptive endurance programs and combined training approaches (including endurance and aerobic exercises) are safe and effective for children and adolescents when the principles of load dosage and monitoring are properly implemented [10-11].

At the same time, the minimal changes observed in speed abilities and ball-throwing indicators can be explained by the specific characteristics of these physical qualities. The development of speed and object-control coordination skills requires targeted, short-term, and high-intensity training stimuli, as well as systematic practice of movement techniques, which are only partially represented in activity-related games. This finding corresponds with previous research emphasizing the necessity of specialized exercises for improving speed abilities and ball-throwing performance.

Several limitations of the study should be taken into consideration. The relatively short duration of the intervention period may have been insufficient to induce stable changes in speed abilities and technically complex motor skills. Furthermore, the high growth rates observed among schoolchildren may be partially explained by their initially low levels of physical fitness, which requires careful interpretation of relative indicators. The use of field-based physical fitness tests, despite their practical applicability, also limits the accuracy of assessing physiological adaptations compared with laboratory-based methods and objective monitoring of physical activity levels [12].

The practical interpretation of the obtained results allows us to recommend activity-related games as an effective means of improving general endurance and strength endurance among schoolchildren, particularly in younger age groups. At the same time, for the comprehensive development of physical qualities, it is advisable to combine game-based forms of physical activity with targeted exercises aimed at improving speed abilities, explosive strength, and throwing coordination skills, as well as to incorporate methods for monitoring training intensity and load regulation.

Overall, the findings of the study confirm the feasibility of using activity-related games within the system of school physical education and are consistent with international and Kazakhstani research findings, emphasizing their importance for promoting health, increasing physical activity levels, and developing sustainable motivation toward physical education among children [13-15].

Conclusion. The study made it possible to identify the specific features of the influence of activity-related games on the physical development of school-age children within the educational training process. The obtained results indicate that the systematic use of activity-related games has a differentiated effect on the main physical qualities of schoolchildren.

The most pronounced positive dynamics were observed in indicators of general endurance and strength endurance, particularly among children in younger age groups, which indicates the high adaptive capacity of the organism during this developmental period and the effectiveness of game-based forms of aerobic motor activity and endurance-oriented exercises.

The development of explosive strength demonstrated stable but moderate growth rates, whereas speed abilities showed minimal sensitivity to the influence of activity-related games within the relatively short duration of the pedagogical experiment.

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REFERENCES

1 Jones, M., Defever, E., Letsinger, A., Steele, J., Mackintosh, K.A. (2020). A mixed-studies systematic review and meta-analysis of school-based interventions to promote physical activity and/or reduce sedentary time in children. *Journal of Sport and Health Science,* 9(1), 3–17. DOI: https://doi.org/10.1016/j.jshs.2019.06.009

2 Dobbins, M., Husson, H., DeCorby, K., LaRocca, R.L. (2013). School-based physical activity programs for promoting physical activity and fitness in children and adolescents aged 6 to 18. *Cochrane Database of Systematic Reviews,* 2, Art. No.: CD007651. DOI: https://doi.org/10.1002/14651858.CD007651.pub2

3 Vaquero-Solís, M., Gallego, D. I., Tapia-Serrano, M. Á., Pulido, J. J., & Sánchez-Miguel, P.A. (2020). School-based Physical Activity Interventions in Children and Adolescents: A Systematic Review. *International Journal of Environmental Research and Public Health*, 17(3), 999. DOI: https://doi.org/10.3390/ijerph17030999

4 Logan, S.W., Robinson, L.E., Wilson, A.E., Lucas, W.A. (2012). Getting the fundamentals of movement: a meta-analysis of the effectiveness of motor skill interventions in children. *Child Care Health Development,* 38, 305-15. DOI: https://doi.org/10.1111/j.1365-2214.2011.01307.x

5 García-Hermoso, A., Alonso-Martínez, A.M., Ramírez-Vélez, R., Pérez-Sousa, M.Á., Ramírez-Campillo, R., Izquierdo, M. (2020). Association of Physical Education With Improvement of Health-Related Physical Fitness Outcomes and Fundamental Motor Skills Among Youths: A Systematic Review and Meta-analysis. *JAMA Pediatrics. 2020, 174(6), e200223.* DOI: https://doi.org/10.1001/jamapediatrics.2020.0223

6 Gråstén, A., Yli-Piipari, S. (2019). The patterns of moderate to vigorous physical activity and physical education enjoyment through a 2-year school-based program. *Journal of School Health,* 89, 88–98. DOI: https://doi.org/10.1111/josh.12717

7 Poitras, V.J., Gray, C.E., Borghese M.M., Carson, V., Chaput, J.-Ph., Janssen, I., Katzmarzyk, P.T., Pate, R.R., Gorber, S.C., Kho, M.E., Sampson, M., Tremblay, M.S. (2016). Systematic review of the relationships between physical activity and health indicators in school-aged children and youth. *Applied Physiology, Nutrition, and Metabolism*, 41(6 (Suppl. 3)), 197-239. DOI: 10.1139/apnm-2015-0663

8 Van Capelle, A., Broderick, C.R., van Doorn, N., E Ward, R., Parmenter, B.J. (2017). Interventions to improve fundamental motor skills in pre-school aged children: A systematic review and meta-analysis. *Journal of Science and Medicine in Sport*, 20(7), 658-666. DOI: https://doi.org/10.1016/j.jsams.2016.11.008

9 Kisch, A., Jakobsson, S., Forsberg, A. (2020). Implementing of a feasible exercise programme in an allogeneic haematopoietic stem cell transplantation Setting — Impact on physical activity and fatigue. *International Journal of Environmental Research and Public Health*, 17(12), 4302. DOI: https://doi.org/10.3390/ijerph17124302

10 Stricker, P.R., Faigenbaum, A.D., McCambridge, T.M., LaBella, C.R., Brooks, M.A., Canty, G., Diamond, A.B., Hennrikus, W., Logan, K., Moffatt, K., Nemeth, B.A., Pengel, K.B., Peterson, A.R. (2020). Resistance training for children and adolescents. *Pediatrics,* 145(6), e20201011. DOI: 10.1542/peds.2020-1011

11 Chaabène, H., Ramirez-Campillo, R., Moran, J. et al. (2025). The era of Resistance training as a Primary Form of Physical Activity for Physical Fitness and Health in Youth Has Come. *Sports Med,* 55, 2073–2090. DOI: https://doi.org/10.1007/s40279-025-02240-3

12 *WHO guidelines on physical activity and sedentary behaviour*. Geneva: World Health Organization, 2020, 104 p. [Electronic resource] – URL: https://www.who.int/publications/i/item/9789240015128

13 Villa-González, E., Barranco-Ruiz, Y., García-Hermoso, A. and Faigenbaum, A.D. (2023). Efficacy of school-based interventions for improving muscular fitness outcomes in children: A systematic review and meta-analysis. *European Journal of Sport Science,* 23, 444-459. DOI: 10.1080/17461391.2022.2029578

14 Ermenova, B.O., Anarkulov, Kh.F. (2020). Organizatsionno-pedagogicheskie usloviya povysheniya dvigatel'noi aktivnosti uchashchikhsya 5–6 klassov putem ispol'zovaniya kazakhskikh narodnykh podvizhnykh igr [Organizational and pedagogical conditions for increasing the motor activity of 5th–6th grade students through the use of Kazakh folk activity-related games]. *Teoriya i metodika fizicheskoj kul'tury* [*Theory and Methodology of Physical Education*], 4(62), 128–134. DOI: https://doi.org/10.48114/2306-5540_2020_4_128 [In Russian]

15 Abdrasilov, A., Orynbasarova, E. (2022). Gosudarstvennoe upravlenie fizicheskoj kul`tury` dlya detej doshkol`nogo vozrasta na primere Karagandinskoj oblasti. [State Administration of physical culture for preschool children on the example of the Karaganda region]. *BUKETOV BUSINESS REVIEW,* 105(1), 147-157. DOI: https://doi.org/10.31489/2022ec1/147-157 [In Russian] [In Russian]

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МЕКТЕП ЖАСЫНДАҒЫ БАЛАЛАРДЫҢ ДЕНЕ ДАМУЫНДАҒЫ ҚИМЫЛ-ҚОЗҒАЛЫС ОЙЫНДАРЫНЫҢ РӨЛІ

Аңдатпа

Мақалада мектеп жасындағы балалардың дене дамуына қимыл-қозғалыс ойындарының әсері қарастырылады. Зерттеудің мақсаты – жас және жыныс ерекшеліктерін ескере отырып, қимыл-қозғалыс ойындарының әсерінен мектеп оқушыларының негізгі дене қасиеттерінің өзгеру динамикасын анықтау болып табылады. Педагогикалық экспериментке жас ерекшеліктеріне қарай топтастырылған мектеп жасындағы балалар қатысты. Педагогикалық ықпал етудің негізгі құралы ретінде оқу-жаттығу сабақтарының құрылымына енгізілген қимыл-қозғалыс ойындары пайдаланылды. Дене дайындығының деңгейі жылдамдық, төзімділік, жарылғыш күш және күш төзімділігі көрсеткіштерін анықтауға бағытталған педагогикалық тестілеу арқылы бағаланды. Өзгерістерді талдау үшін өсім коэффициенті қолданылды. Зерттеу нәтижелері жалпы төзімділік пен күш төзімділігі көрсеткіштерінде, әсіресе кіші жас топтарындағы балаларда, айқын оң динамика байқалғанын көрсетті. Ал жылдамдық қасиеттері мен жарылғыш күш көрсеткіштері өсімнің орташа қарқынымен сипатталды. Алынған деректер қимыл-қозғалыс ойындарының мектеп оқушыларының дене дайындығының функционалдық және күштік құрамдастарын дамытудағы тиімділігін дәлелдеп, оларды дене дамуын кешенді жетілдіруге бағытталған арнайы жаттығулармен үйлестіріп қолданудың қажеттілігін негіздеді.

Түйінді сөздер: қимыл-қозғалыс ойындары, дене дамуы, мектеп оқушылары, дене дайындығы, төзімділік, күш төзімділігі, жарылғыш күш, жылдамдық.

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РОЛЬ ПОДВИЖНЫХ ИГР В ФИЗИЧЕСКОМ РАЗВИТИИ ДЕТЕЙ ШКОЛЬНОГО ВОЗРАСТА

Аннотация

В статье рассматривается влияние подвижных игр на физическое развитие детей школьного возраста. Цель исследования - определить особенности динамики основных физических качеств школьников под воздействием подвижных игр с учётом возрастных и половых различий. В педагогическом эксперименте приняли участие дети школьного возраста, распределённые по возрастным группам. В качестве основного

средства педагогического воздействия использовались подвижные игры, включённые в структуру учебно-тренировочных занятий. Уровень физической подготовленности оценивался с помощью педагогического тестирования, направленного на определение показателей скорости, выносливости, взрывной силы и силовой выносливости. Для анализа изменений применялся коэффициент прироста. Результаты исследования показали, что наиболее выраженная положительная динамика наблюдается в показателях общей и силовой выносливости, особенно у детей младших возрастных групп, тогда как скоростные качества и взрывная сила характеризуются умеренными темпами прироста. Полученные данные подтверждают эффективность подвижных игр как средства развития функциональных и силовых компонентов физической подготовленности школьников и обосновывают необходимость их сочетания со специализированными упражнениями для комплексного физического развития.

Ключевые слова: подвижные игры; физическое развитие; школьники; физическая подготовленность; выносливость; силовая выносливость, взрывная сила, скорость.

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