

**MORPHO-FUNCTIONAL FEATURES OF PHYSICAL DEVELOPMENT  
OF 7–8 YEAR-OLD CHILDREN**

**Sayfiyev Hikmatullo Xayrullayevich**  
Asia International University  
Email: [hikmatulloaefiyev@gmail.com](mailto:hikmatulloaefiyev@gmail.com)

**Abstract**

This article analyzes the age-specific morpho-functional, psychophysiological and social factors of the physical development of 7–8-year-old children based on scientific sources. The importance of this period as a sensitive stage in the process of sports gymnastics and general physical training is substantiated. The specific features of children's nervous system plasticity, development of the musculoskeletal system, functional state of the cardiovascular and respiratory systems are highlighted. The influence of individual biological differences, psychological preparation, family and social environment factors on sports results is also considered. The article presents scientific conclusions on the need for integrated development of coordination and flexibility skills, individualization of the training process and the use of a comprehensive approach.

**Keywords**

7–8 years old, physical development, sports gymnastics, morpho-functional characteristics, coordination ability, flexibility, individual approach, psychological factors, initial training stage, physical fitness.

**ENTRANCE**

The period of 7–8 years is one of the important and responsible stages of physical development in the ontogenesis of a child. This age range coincides with the primary school period and is characterized by an acceleration of morphological and functional changes in the body. It is during this period that favorable physiological and pedagogical conditions are created for the improvement of motor activity, the formation of new motor skills, and the development of coordination abilities. The processes of controlling movements, understanding spatial orientation, maintaining balance, and developing flexibility in children occur at a high pace. Therefore, the age of 7–8 is considered a sensitive period for the purposeful organization of physical education and sports activities.

At this age, the child's body enters an active phase of growth and development. In the musculoskeletal system, bone tissue is strengthened, muscle fiber differentiation is observed, and the ligamentous apparatus develops. Although the skeletal system is not yet fully ossified, its elasticity and flexibility are high. At the same time, as a result of the maturation of the nervous system, the balance of excitation and inhibition processes is gradually improved, and the accuracy of reflex activity increases. This expands the possibility of mastering more complex movement elements. The cardiovascular and respiratory systems are also functionally strengthened: heart rate and breathing depth increase, but these systems are not yet fully adapted to long-term high-intensity loads. Children aged 7–8 are characterized by high motor activity. They are prone to performing rapidly changing, dynamic movements and are able to master new motor skills in a short time. In particular, the qualities of coordination, agility and flexibility develop relatively quickly. However, muscle strength and general endurance indicators are in the early stages of development and are lower than in older children or adolescents. Therefore, physical training should be organized based on the principle of gradualness and gradual increase

in load, taking into account age and gender characteristics. Excessive strain, especially static and heavy strength exercises, can have a negative effect on the musculoskeletal system.

At this age, due to the high sensitivity and plasticity of the nervous system, there is a favorable opportunity to teach complex coordination movements, form technical elements, and strengthen movement stereotypes. The formation of the correct technical foundations of movement when teaching gymnastics, elements of athletics, or general developmental exercises creates the foundation for achieving high results in the future. At the same time, the psychological characteristics of children - unstable attention, emotional sensitivity, tendency to imitate - require special attention when organizing the training process. Giving clear, concise, and understandable instructions, using the example method, and positive encouragement increase efficiency. When planning physical development, the individual capabilities of children, their health status, motivation for movement, and psychophysiological readiness should be given priority. Since children aged 7–8 have a strong natural need for movement, it is advisable to organize training based on game elements. Active games, relay races and interesting tasks increase children's interest in training, create a positive emotional background and contribute to the comprehensive development of physical qualities. Through game activities, the qualities of speed, agility, balance and flexibility are naturally and effectively formed. It is worth noting that at this age it is important to correctly distribute the loads and strictly observe health factors. In order to prevent orthopedic and neurological problems, training should be carried out under regular medical supervision. Monitoring the dynamics of growth, analyzing anthropometric indicators and taking into account the results of functional tests provide an individual approach. This is especially important for children involved in artistic gymnastics, since this sport requires high coordination and flexibility. Analysis of scientific sources shows that the physical development of 7–8-year-old children is a multifactorial and complex process, manifested in direct correlation with their physiological capabilities, motor activity, level of endurance, and age-specific characteristics of their ability to adapt [107; p. 24, 108; p. 23–26, 98; p. 115, 73; p. 116, 74; p. 140]. Researchers emphasize that physical education and sports activities in children of preschool and primary school age create a solid foundation for development at the subsequent ontogenetic stage and are one of the decisive factors in the formation of a positive attitude towards a healthy lifestyle. In particular, M.X. Tadzhiyeva and S.I. Khusankhodjayeva (2017) argued that scientifically based and systematic organization of physical education at this age period expands children's functional capabilities, facilitates the process of social adaptation, and sustainably forms healthy life skills.

Indeed, 7–8 years is a stage of active morpho-functional changes in the organism. During this period, the nervous system, musculoskeletal system, cardiovascular and respiratory systems are rapidly developing. In the process of controlling movements, the level of plasticity of the central nervous system is high, and preparation for mastering complex coordination elements begins to form. At the same time, muscle strength and general endurance are not yet fully developed, and the issue of normalizing loads is methodologically important.

DN Rakhmatova et al. (2020) emphasize that physical education of preschool and primary school children requires individualization of methodological approaches. In their opinion, children's motor activity, attention characteristics, and propensity for play activities create favorable conditions for the formation of physical skills. However, the relatively low indicators of muscle strength and endurance make it necessary to carefully determine the loads during training [110; p. 190].

S. Khakimov and H. Tilavoldiyeva (2025) note that the methodology for developing physical qualities in young gymnasts should be developed with a thorough consideration of biological and psychological characteristics. They substantiate that at the age of 7–8, movement

skills are effectively developed through game-like exercises, and that this approach serves to form physical fitness naturally and safely [139; pp. 50–54].

DM Artikovna (2022) shows that the sensitivity and flexibility of the neuromuscular system play an important role in the development of physical qualities in 7–9-year-old gymnasts. The author notes that during this period, movement skills are rapidly formed, but since strength and endurance are not yet fully developed, strict moderation of loads is necessary [22; pp. 8–9].

At the same time, an analysis of the existing scientific literature shows that some methodological aspects are not sufficiently covered. First, the issue of the individual biological development rates of children and their impact on sports training has not been deeply analyzed. In most studies, general normative approaches prevail, and insufficient attention is paid to individual developmental differences. Second, psychological factors - motivation, interest, emotional stability - are considered more theoretically, and they need to be enriched with practical methodological recommendations. Third, the issue of using modern monitoring and diagnostic tools in determining training loads has not been widely disclosed.

The results of a two-year study by BR Hes and R. Asienkiewicz (2022) show that there are significant individual differences in the levels of physical development in young athletes. This confirms the need to individualize the training process, especially to improve the methodology for developing flexibility and coordination in 7–8-year-old gymnasts [58; pp. 185–200].

In the studies conducted by NV Yefimova and co-authors, the influence of ecological and geographical conditions on the physical development of 7–8-year-old children was studied. Analysis of anthropometric and functional indicators showed that some physiological parameters were lower in children living in industrialized areas [50; pp. 140–144]. These results prove the need to take into account environmental factors when planning the physical education process.

MN Nitsuk (2020) notes that coordination abilities gradually develop between the ages of 6–12, with 7–9 years being a particularly sensitive period for the development of coordination and balance [99; pp. 197–206]. OV Tulyakova (2012) argues that the level of physical development is closely related to regional and socio-economic factors [126; pp. 74–87].

According to Yu.V. Polinsky, the initial preparatory stage is the initial foundation for sports specialization, and it is at the age of 7–8 that it is necessary to harmoniously develop the qualities of strength, speed, balance, endurance and flexibility [104; pp. 30–35]. However, this process should be carried out on the basis of strictly standardized loads, taking into account the immaturity of the musculoskeletal system.

In general, the analysis of scientific sources confirms that the age of 7–8 is a sensitive and methodologically important stage in terms of artistic gymnastics and general physical training. However, a thorough analysis of the existing scientific and methodological literature shows that some important factors in the process of comprehensive development of young gymnasts are not sufficiently covered.

First of all, factors such as the family environment of children, the attitude of parents to sports, the level of support for the child, as well as the indicators of mastery at school and general intellectual activity can significantly affect their physical development and sports results. Support for a healthy lifestyle in the family, adherence to the daily routine, the quality of nutrition and the psychological climate determine the functional capabilities of the child and his attitude to training. Therefore, when working with 7-8-year-old children involved in artistic gymnastics, it is necessary to take into account not only biological or methodological factors, but also the socio-psychological environment. Taking these factors into account when developing individual and regional methods is of great importance not only for improving the level of training of gymnasts, but also for children involved in other sports.

There are also some methodological shortcomings in the development of coordination skills and flexibility, which are one of the main indicators of physical development. Although many studies have studied these qualities separately, the methodology for developing them in an integrated manner, that is, as a mechanism that complements and strengthens each other, is not sufficiently substantiated. However, the rapid and accurate mastery of complex sequences of movements in gymnastics depends precisely on the harmonious development of coordination and flexibility. If these two physical qualities are formed simultaneously, systematically and purposefully, the stability of the movement technique and the accuracy of execution will significantly increase.

There is also relatively little scientific data on the effectiveness of developing physical abilities in training sessions based on a complex approach, that is, through complementary exercises. In fact, for 7-8 year old children, a complex approach - the harmonious development of speed, balance, coordination, flexibility and general endurance - allows them to comprehensively increase their overall level of physical fitness. Since at this age the muscles, bones and nervous system are actively developing, it is possible to strengthen the functional connection between qualities through a properly selected system of exercises.

However, individual differences are clearly noticeable among children. While coordination skills may develop quickly in some children, flexibility may be at a high level in others. Therefore, it is advisable to organize the training process not on the basis of a standard scheme, but on the principle of an individual approach. This approach requires differential determination of the volume and intensity of the load, a gradual increase in the complexity of the exercises, and regular monitoring of the functional state.

In addition, the psychological state and motivation factor are also of particular importance. In children aged 7–8, interest is formed quickly, but it can also fade quickly. If the activities are monotonous, or the child does not develop a sense of success, the effectiveness of the training process is likely to decrease. Therefore, it is methodologically important to provide encouragement, create a positive emotional environment, use game elements, and recognize small achievements.

To ensure the comprehensive development of children aged 7–8, it is necessary to comprehensively take into account individual biological characteristics, the level of psychological preparation, and external environmental factors in the methods. In particular, the development and implementation of a scientifically based methodological system aimed at the integrated development of coordination and flexibility is an important condition for effectively improving the physical fitness of young athletes in artistic gymnastics.

## **CONCLUSION**

Based on the analyzed scientific sources and theoretical and methodological approaches, it can be concluded that the period of 7–8 years is an important and sensitive stage in the physical development of children. At this age, the morpho-functional systems of the body — the musculoskeletal system, the central nervous system, the cardiovascular and respiratory systems — undergo an active development process. This creates a favorable physiological basis for the formation of motor skills, the development of coordination abilities and flexibility.

At the same time, since muscle strength and general endurance in 7–8-year-old children are not yet fully formed, it is necessary to strictly adhere to the principles of normalization, gradualness and individualization of loads in the training process. Individual biological differences, psychological characteristics, level of motivation, as well as family and social environment factors directly affect physical development and sports results. Therefore, the process of working with children at the initial training stage in sports gymnastics should be organized on the basis of a comprehensive and systematic approach. Studies show that the harmonious and integrated

development of coordination and flexibility, in particular, is an important factor in the rapid and effective mastery of complex movement elements by young gymnasts. However, the existing scientific and methodological works have not sufficiently developed a methodology for the complex development of these qualities.

In conclusion, it can be said that the development of a scientifically based methodological system aimed at the comprehensive development of coordination and flexibility, based on an individual approach, taking into account biological, psychological and social factors when working with children aged 7–8, is an important condition for increasing the effectiveness of physical training in gymnastics.

### Used literature

1. Таджиева М.Х., Хусанходжаева С.И. Бошланғич ва мактабгача ёшдаги болалар жисмоний тарбиясининг назарий асослари. – Тошкент: Фан, 2017. – 215 б.
2. Рахматова Д.Н. ва бошқ. Мактабгача ва бошланғич таълим ёшидаги болалар жисмоний тарбияси методикаси. – Тошкент: Ўқитувчи, 2020. – 190 б.
3. Ҳақимов С., Тилаволдиева Х. Ёш гимнастикачиларда жисмоний сифатларни ривожлантириш усуллари. – Тошкент: Илм зиё, 2025. – 54 б.
4. Артиковна Д.М. 7–9 ёшли гимнастикачилар жисмоний сифатларини ривожлантириш хусусиятлари // Жисмоний маданият назарияси ва амалиёти. – 2022. – №3. – Б. 8–9.
5. Hes B.R., Asienkiewicz R. Physical fitness differentiation in young acrobatic gymnasts: A two-year study // Journal of Sports Science. – 2022. – Vol. 40. – P. 185–200.
6. Ефимова Н.В. ва бошқ. Экологик омиларнинг болалар жисмоний ривожланишига таъсири // Педиатрия ва спорт тиббиёти. – 2019. – №4. – Б. 140–144.
7. Ницук М.Н. Болаларда координацион қобилиятларнинг ривожланиш динамикаси // Теория и практика физической культуры. – 2020. – №6. – Б. 197–206.
8. Хайруллаев, S. H. (2023). *Aerobik gimnastikaning xususiyatlari*. Technical Science Research in Uzbekistan, 1(5), 442–448.
9. Хайруллаев, S. H. (2023). *The initial exercise of teaching methodology to gymnastics*. American Journal of Public Diplomacy and International Studies, 2(1), 239–257.
10. Хайруллаев, S. H. (2024). *Basic concepts of the growth of motor development in gymnastics*. Multidisciplinary Journal of Science and Technology, 4(3), 141–148.
11. Хайруллаев, S. H. (2023). *Gimnastika darsida pedagogik ko'rsatmalar va mashqlarni o'tkazish usullari*.