



## Bilateral Development of Movements in Pre-school Children

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### ABSTRACT

**Objective:** Changing living conditions in modern society, linked both to environmental and social disadvantages and, on the other side to the misuse of scientific and technical advances, lead to insufficient motor activity, which causes unhealthy lifestyles. Numerous studies have shown that modern lifestyle is immobilized and low physical activity leads to a number of diseases and changes in development from an early age. The meaning of any physical educational activity consists in achieving the optimal functional and morphological equilibrium of the organism in its interaction with the environment (1).

In today's automation of life, it is necessary to increase the efficiency of physical education in the kindergarten, paying attention to the physical capacity and development of children. For the physical development of the children of pre-school age, the factors of heredity, social activity of the children through the different forms of work in physical education are of great importance (2). The specificity of the development of the children from the preparatory group is that it is related not only to the goals and tasks to be achieved in the program, but also to the specifics of the children. The requirements to pre-school children are increasing and serious, but at the same time can also play and perform their tasks according to the target.

**Materials and Methods:** The methodology of the study is as follows: The subject of the study is the signs of physical development in the left and right half of the limbs and their change due to the applied tests. The subject of the study is the dynamics of physical development indicators for 5-7 year old children. A total of 120 children aged from 5 to 7 years are the contingent of the study. The survey was conducted within the school year 2017/2018 from October to May in the Kinder garden "Delfin" in Burgas (Bulgaria). During the experimental period, the children from the experimental groups were given 2 times per week training in physical education and sports. Accordingly, after the execution of each mini game was done and testing, to determine whether there is a difference after each session. For practical measurement to determine the level of development in upper limbs I used test throwing a small solid ball in goal, turning the ring to the left and right wrist, hopping on one foot for lower limbs and support with raised right hand and raise left leg. Measurement is carried out using standard conditions and equipment for all children studied and performed in two consecutive testing within a month in October 2017 and in the month of May 2018. Certainly most children will receive the difference between left and right side and in the four tests. The first test will determine in meters, the second number of spins with each hand, the third number of jumps in 30 seconds and the fourth in seconds time of both hands. The four tests will calculate and record in the data the average score for the two successive tests for each child. Our task will be to test each child and identify the difference in development between left and right legs and arms. If the exercises are done correctly, the results will be up to date and true to all children (3).

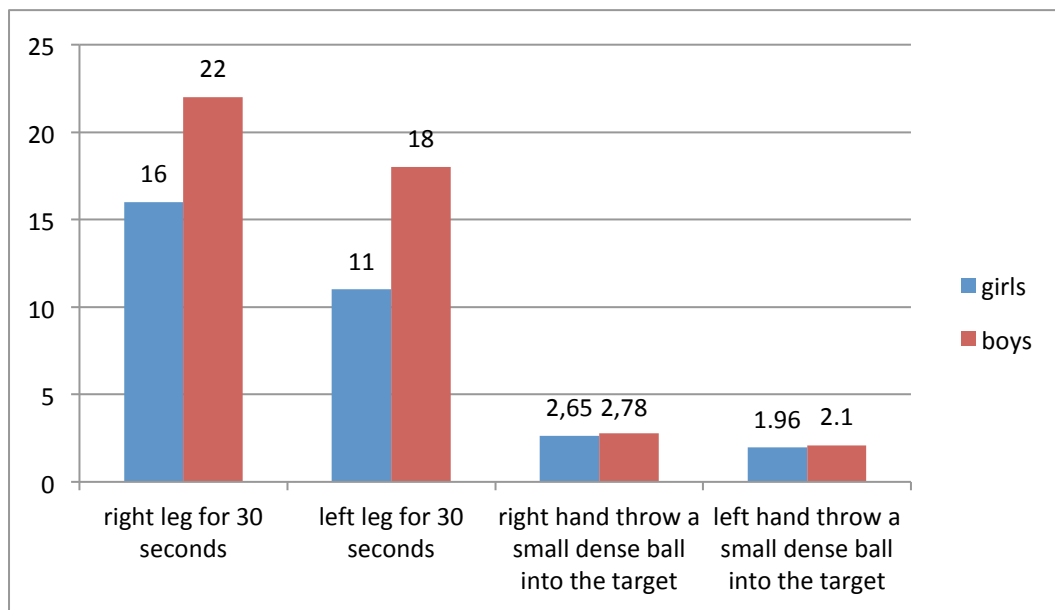
**Results:** In conclusion, we can say that the data from our study will confirm the accepted working hypothesis. When practiced properly, the results will be relevant and true to the physical development of all children. The results obtained are treated by application of variational and comparative analysis.

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**Figure 1.** Some of the data from the two measurements

On analyzing the results, giving us information about the physical development in children 5-7 years old and the boys found a large increase in the test “Jumping on one leg for 30 seconds”. We will note that our data lead to a high development of the lower limbs in the boys on both sides. In girls and boys, the difference between left and right leg is very small and we come to the conclusion that their bilateral development is with minor differences. But girls are definitely weaker in the development of the lower limbs. This is also evident from the “Throwing in order” test. The difference between the two sexes is minimal, i.e. we find that girls and boys are very well developed at the upper limbs (4).

**Conclusions:** My discussions were about the health importance of movement in all periods from early childhood to adulthood as the basis for life afterwards. What results will be obtained after the applied tests included in the form of play in physical education? The motor culture of modern children is very low and this reflects on their physical development. What to do to improve the development gap? The longest hesitation was for appropriate tests!

In conclusion, I would point out that the motor regimen must be a daily routine for all children of all ages! And educators must learn and offer kids more games related to the development of limbs in pre-school children!

**Key words:** physical development, bilateral development, testing, pre-school age.

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