



**COMPARATIVE ANALYSIS OF DYNAMOMETRIC INDICATORS
OF THE UPPER LIMBS OF RIGHT-HANDED AND LEFT-HANDED
CHILDREN (BOYS AND GIRLS) AGED 4 TO 12 YEARS.**

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Annotation: *The analysis was carried out on right-handed and left-handed children (boys and girls) aged from 7 to 12 years of secondary school No. 32 and from 4 to 6 years of preschool educational institution No. 16. The results of the study showed that the strength of the dominant hand was significantly stronger than the strength of the second hand in children in ages from 4 to 12 years, regardless of gender, and this difference increased with age.*

Key words: *muscle strength, dynamometry, sexual demorphism, dominant hand.*

Relevance of the topic

According to the World Health Organization, 15.0% of people on Earth, or every seventh child born, suffer from stunted growth. According to the main sources, most goblin have great talents, but among them there are also people with low intellectual potential. Currently, according to statistics, the left is more common among men than among women. Among some categories of "...people, the ideal and universal symbol of human abilities in relation to one-armed and one-armed people are ambidextrous people, capable of simultaneously performing two actions with the right and left hand...".

The purpose of the study was to study the dynamometric parameters of the upper limbs in right-handed and left-handed children.

Materials and methods of research: the study was conducted on children (boys and girls) aged 7 to 12 years of secondary school No. 32 and children aged 4 to 6 years of preschool educational institution No. 16. Of these, 250 children are right-



handed (129 boys, 121 girls) and 89 children (49 boys, 40 girls) are left-handed. Muscle strength (kg) is tested 3 times in each arm using a dynamometer.

Results of the study: according to the results of dynamometer indicators, in boys and girls aged 4 to 12 years, by the first period of childhood, a positive increase in muscle strength of the right hand is observed. The highest rate is at 5 years of age (35.4%). At the age of 7 years (6.8%), the lowest rate of increase in muscle strength in the left arm was the highest at the age of 5 years (80.8%), and at the age of 6 years the lowest rate was (6.4%). By the second period of childhood, the growth rate of muscle strength in the right hand was the highest at 10 years (18.9%), and the lowest at 9 years (11.8%), the increase in muscle strength in the left hand was highest at 9 years (27.4%) and the lowest at 11 years (10.0%) noted the indicator.

In right-handed boys, by the first period of childhood, the rate of growth of muscle strength of the right hand was the highest at 5 years (20.3%), and at 6 years (8.5%) - the lowest. The rate of increase in muscle strength in the left arm was the highest at 6 years (35.0%), and at 5 years (17.6%) had the lowest rate.

By the second period of childhood, the growth rate of muscle strength of the right hand was the highest at 12 years old (25.7%), and the lowest at 10 years old (16.7%), the growth rate of muscle strength of the left hand was highest at 9 years old (33.3 %) and the lowest in 10 years (12.5%) showed the indicator. According to the results obtained from dynamometry indicators, in left-handed boys and girls aged 4 to 12 years, by the first period of childhood, the growth rate of muscle strength in the right hand was 7 years (18.5%) and the lowest was 6 years (12.5%). the rate of the indicator was highest at 6 years of age (11.1%), and lowest at 7 years of age (4.3%).

By the second period of childhood, the growth rate of muscle strength of the right arm was the highest at 9 years old (29.7%), and the increase in muscle strength in the left arm was the lowest at 11 years (3.9%), the greatest at 9 years (21.6%), and the smallest at 11 years (3.9%).

By the first period of childhood, the growth rate of muscle strength in the right hand was the highest at 7 years (32.0%), and the lowest at 6 years (4.2%), the increase in muscle strength in the left hand was highest at 5 years (25.5 %), and the lowest was



at 6 years (3.1%). By the second period of childhood, the rate of increase in muscle strength in the right hand was the highest at 9 years (26.1%), and the lowest at 11 years (5.6%), the increase in muscle strength in the left hand was greatest at 9 years (26.9%). %), and the lowest - at 11 years (9.0%) was noted.

Conclusion: in right-handed and left-handed children aged 4 to 12 years, regardless of gender, the strength of the dominant hand was significantly stronger than the second, and this difference increased with age.

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