



## THROUGH ANTHROPOMETRIC MEASUREMENTS IN PRIMARY SCHOOL CHILDREN DETERMINATION OF PHYSICAL DEVELOPMENT

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<https://doi.org/10.5281/zenodo.7839463>

### Abstract

The research was conducted among children of Uzbek nationality. 800 children aged 7 to 10 years were examined. Research materials are presented in Table 1. In order to correctly evaluate the theoretical analysis of the results of anthropometric measurements, the age of the children was determined according to the scheme proposed by D. Abduraimov.

**Key words:** Growth, development, general biological, anthropometric parameters, height, body weight, head circumference, waist circumference, chest circumference, physical development, physical growth.

**Growth:** Concepts of growth and development. Growth and development processes are universal biological properties of living matter. The growth and development of a person, which begins with the fertilization of an egg cell, is a continuous process throughout his life. The development process takes place in a race-like state, and the differences between the stages or periods of its life lead to changes not only quantitatively, but also qualitatively.

The presence of age-related characteristics in the structure or activity of one or another physiological system is not considered a prediction or accurate information about the complete value or lack of value of a child's organism at certain stages of youth. It is precisely these complex characteristics that characterize this or that age.

Development literally means the processes of quantitative and qualitative changes observed in the human organism, which call for an increase in the level of complexity of the organization of all its systems. Development includes three main factors; growth, differentiation of organs and tissues, formation (acquiring an organism-specific and monadic form). These factors are interrelated and complement each other.

One of the main physiological characteristics of the development process of a child's organism, which differs from an adult's organism, is a quantitative process, i.e., growth, which is accompanied by a constant increase in the body's weight and a change in the number of its cells or their sizes.

**Purpose of work:** A young organism is constantly growing and developing. Accordingly, by carrying out anthropometric measurements of their growth, identifying differences and similarities in the growth process between 7-10-year-old children in 2014 and 7-10-year-old children in 2022.

**Research results and discussion.**

Observations of Ferghana region's elementary school students since 2014 allowed to monitor the growth, physical development and physical maturity of the examined children by 2022. From 2014 to 2022, as a result of monitoring the physical development of girls aged 7 to 10,

i.e. of junior school age, in Fergana region, the average height of girls of junior school age has significantly decreased compared to the results of 2014. showed that sg.

The average height of modern boys at the age of 7-10 (from  $118.7 \pm 0.4$  cm to  $122.8 \pm 0.5$  cm; from  $127.3 \pm 0.5$  cm to  $129.4 \pm 0.4$  cm; from  $129.7 \pm 0.3$  cm to  $134.4 \pm 0.4$  cm; from  $137.3 \pm 0.5$  cm to  $137.9 \pm 0.4$  cm) respectively 2.4 increased by cm; 2.1 cm; 2.3 cm and 2.2 cm. Girls were also taller when compared to girls examined by D. Abduraimov in 2014.

Table 1

No. Height (cm) 2014 Height (cm) 2022 Height (cm)

1.  $118.7 \pm 0.4$   $122.8 \pm 0.5$  4.1
2.  $126.3 \pm 0.5$   $129.4 \pm 0.4$  2.9
3.  $129.7 \pm 0.3$   $134.4 \pm 0.4$  4.6
4.  $137.3 \pm 0.5$   $139.9 \pm 0.4$  2.5

Comparison of physical development indicators of 7-10-year-old schoolchildren in Fergana region measured in 2014 and physical development indicators of children of the same age in 2022 height and body of boys and girls showed a significant increase in weight.

The anthropometric indicators of preschool children in Fergana region during 2014-2022 are not only an increase in body weight, but also a significant increase in chest circumference, which means that the physical condition of modern schoolchildren is accelerating. That is, as the period passes, not only in children, but in the whole organism, some increase or decrease is observed. This changes depending on the products we eat or the daily routine we follow.

Comparing the anthropometric indicators of the physical development of children of modern junior school age in Fergana region with the parameters of children of the same age in 2014, it was found that the height and body weight of modern children have increased.

At the same time, in 7-year-old boys, the average (from  $59.4 \pm 0.4$  cm to  $61.5 \pm 0.6$  cm) chest circumference increased by 2.1 cm, in 7 years ( $60.9 \pm 0.3$  cm) ( $63.0 \pm 0.4$  cm) - increased by 2.1 cm. at the age of 9 (from  $62.8 \pm 0.4$  cm to  $63.3 \pm 0.2$  cm) - 2.3 cm and in boys - at the age of 10 (from  $64.1 \pm 0.3$  cm to  $66.2 \pm 0.5$  cm) is reduced to 2.2 cm. For girls, this indicator is 7-10 years old (from  $58.2 \pm 0.3$  cm to  $60.2 \pm 0.1$  cm; from  $59.5 \pm 0.3$  cm to  $61.4 \pm 0.3$  cm); from  $62.7 \pm 0.4$  cm to  $64.5 \pm 0.7$  cm; from  $63.8 \pm 0.3$  to  $65.9 \pm 0.9$  cm) by 1.8 cm; 2.1 cm; 2.0 cm and increased by 1.9 cm.

Boys aged 7-10

Table 2

No. Chest circumference (cm) 2014 Chest circumference (cm) 2022 Growth rate (cm)

1.  $59.4 \pm 0.4$   $61.5 \pm 0.6$  2.1
2.  $60.9 \pm 0.3$   $63.0 \pm 0.4$  2.1
3.  $62.8 \pm 0.4$   $63.3 \pm 0.2$  2.3
4.  $64.1 \pm 0.3$   $66.2 \pm 0.5$  2.2

For girls, this indicator is 7-10 years old

Table 3

No. Chest circumference (cm) 2014 Chest circumference (cm) 2022 Growth rate (cm)

1.  $58.2 \pm 0.3$   $60.2 \pm 0.1$  1.8
2.  $59.5 \pm 0.3$   $61.4 \pm 0.3$  2.1
3.  $62.7 \pm 0.4$   $64.5 \pm 0.7$  2.0
4.  $63.8 \pm 0.3$   $65.9 \pm 0.9$  1.9

A comparison of anthropometric indicators of physical development of schoolchildren aged 7 to 10 years in 2010-2022 showed that the length, body weight, chest and head circumference of children examined in 2014 It was less than peers who were examined 5 years ago.

When comparing the anthropometric indicators of the physical development of children of modern junior school age in Fergana region with the indicators of their peers in 2014, it was found that the head circumference of modern children aged 7-10 years has increased. At the same time, head circumference in 7-year-old boys (from  $53.2 \pm 0.2$  cm to  $55.3 \pm 0.3$  cm) by 2.1 cm, in 8-year-old boys ( $53.6 \pm 0.2$ ) was longer. from cm to  $55.8 \pm 0.2$  cm - 2.2 cm, in 9-10 years (from  $53.7 \pm 0.2$  cm to  $56.0 \pm 0.2$  cm; from  $54.4 \pm 0.1$  cm to  $56.6 \pm 0.1$  cm), this indicator showed an average difference of 2.3-2.2 cm, respectively.

Summary. When comparing the anthropometric indicators of the physical development of children of modern junior school age in Fergana region with the parameters of their peers in 2014, the acceleration of the main anthropometric indicators of modern children was determined.

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INTERNATIONAL JOURNAL OF RESEARCH IN COMMERCE, IT, ENGINEERING AND SOCIAL SCIENCES ISSN: 2349-7793 Impact Factor: 6.876, 16(10), 148-156.

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