

## THE OBSERVATION STUDY ON THE ANTHROPOMETRIC PROFILE OF THE VI TH CLASS PUPILS

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### **Abstract:**

Anthropometric evaluation is a means of estimating physical development centered on measurements of the human body, on certain segments or on the whole body. The main aspect of anthropometric evaluation is the comparison of results from a mathematical point of view, through figures, graphs. In order to achieve the proposed objective, regarding anthropometric measurements, we used tests that aimed at measuring the height, weight, height of the bust, the abdominal perimeter, the width of the arms and the sole. The purpose of this study is to present the methods of somatic evaluation at the level of the 6th grade and the anthropometric examination regarding the harmonious growth and development, which by these measurements we can check if the students fall within the normal limits, below them or above the normal level according to age and sex.

### **Introduction**

The young generation as an action to educate the social activity includes areas of analysis and appreciation of the measurements made. The science that deals with the use of tests is called psychotechnics. The tests were characterized by the analysis of the human psychic, then they were used in the evaluation of the students' knowledge, aptitudes and intelligence.

The need to know the somatic and morpho-functional parameters represents the quantification of the efficiency of the work submitted by the teacher and his methods as well as the subject, the measurements made periodically, in stages or at the beginning and end of some activities show the variations in the evolution of each subject, highlighting the dynamics of the processes. physical growth and development.

Donald K. Mathews, [4] in the field of bodily activities, tells us about measurement and evaluation as two means. Measurement is a part of the evaluation that pursues an immediate goal, while the evaluation

includes the results of the measurement in knowing the progress of the individual in relation to the purposes of education. Adrian Gagea [3] establishes the characteristics of the measurements as the following: accuracy, repeatability and fairness, these working independently or associated.

Anthropometric evaluation is a means of estimating physical development centered on measurements of the human body, on certain segments or on the whole body. The main aspect of the anthropometric evaluation is the comparison of the results from the mathematical point of view, through figures, graphs, activity that implies precision and correctness.

In the field of motor activities, measurement takes on a particular aspect, being part of the methodological process of knowing the processes and phenomena specific to education. It is a difficult process, due to the complexity of the phenomena that appear within their system of practice. [5]

'All the actions aimed at a correspondence between the measured subject or phenomenon (skills, skills, motor qualities) and the unit of measure, by applying control samples, in order to gather results or data, in order to know as accurately as possible the effects of the practice physical exercises and, in general, the behavior of the subjects in the physical education or sports activity. '[1].

For this study different measurement indices have been created which will be compared with the ideal indices for each study year by interpreting the values obtained by the students, if they fall within the normal limits, below them or above the normal limits.

### **Material-method**

The students of the 6th grade were subjected to tests that aimed to measure the height, weight, height of the bust, the abdominal perimeter, the width of the arms and the sole. The body dimensions were measured in cm and the weight in kg.

As research methods, I used the bibliographic survey method, the observation method, the anthropometric measurement method, the mathematical method, and the graph and table method. [2]

The method of the bibliographic study consists in searching the bibliographic sources in which the subject is treated, consulting them and noting the important and necessary information for the study.

The method of observation consists in carefully monitoring the students from the initial moment to the final moment.

Method of anthropometric measurements - to assess the morphological type and the degree of physical development of the students, we used the following anthropometric measurements: height, weight, bust height, abdominal perimeter, arm width, foot length. It is recommended to use the same tools for all students, such as: talimeter, metric band, mobility ladder, etc.

The statistical method consists of collecting the numerical data, placing them in the tables and processing them by establishing the position of the individual within the normal limits, or if it is below, or above the normal limit. Graphical and table method - includes the graphical representation of the results from the initial and final tests.

### Results and discussions

The students who participated are from the 6th grade from the "Iorgu Vârnăv Liteanu" High School, the city of Liteni, Suceava County, with a total of 20 participants, thus distributing 12 boys and 8 student girls, and the measurements used in the experiment were - held in the gymnasium of the high school.

No.	Name	Height	Body weight	Height of the chest	Waisst	Length of arms	The length of foot
1.	A.V.	158	41	81	69	150	25
2.	C.E.	160	44	81	72	160	25
3.	C.S.	150	37	72	66	149	23
4.	C.T.	160	52	72	69	157	24
5.	G.D.	153	40	80	67	148	22
6.	S.M.	158	50	80	72	157	25
7.	T.A.	159	49	73	68	150	24
8.	Z.A.	161	51	82	78	158	25
	<b>A<sub>σ</sub></b>	<b>11</b>	<b>15</b>	<b>10</b>	<b>12</b>	<b>12</b>	<b>3</b>
	<b>X</b>	<b>157,3</b>	<b>45,5</b>	<b>77,62</b>	<b>70,12</b>	<b>153,62</b>	<b>24,12</b>
	<b>+/-S</b>	<b>3,85</b>	<b>5,73</b>	<b>4,43</b>	<b>3,83</b>	<b>4,80</b>	<b>1,12</b>
	<b>Cv%</b>	<b>2,44</b>	<b>12,59</b>	<b>5,70</b>	<b>5,46</b>	<b>3,12</b>	<b>4,64</b>

Table 1. Initial anthropometric measurements, girls, the 6th grade, average age 12 years

No.	Name	Height	Body weight	Height of the chest	Waisst	Length of arms	The length of foot
1.	A.E.	155	42	76	65	155	25
2.	B.A.	154	54	79	70	153	24
3.	C.E.	164	44	82	74	165	25
4.	J.A.	155	47	76	75	152	24
5.	L.G.	164	51	72	75	164	25
6.	L.A.	150	37	74	75	148	20
7.	P.R.	161	47	80	62	160	25
8.	P.L.	159	53	83	70	157	24
9.	R.P.	173	61	86	80	180	26
10.	R.A.	149	49	70	80	152	26
11.	S.A.	161	43	80	80	163	26
12.	Z.J.	162	46	83	71	160	25
	<b>A<sub>σ</sub></b>	<b>24</b>	<b>24</b>	<b>16</b>	<b>18</b>	<b>32</b>	<b>6</b>
	<b>X</b>	<b>158,91</b>	<b>47,83</b>	<b>78,41</b>	<b>73,08</b>	<b>159,08</b>	<b>24,58</b>
	<b>+/-S</b>	<b>6,74</b>	<b>6,35</b>	<b>4,87</b>	<b>5,77</b>	<b>8,50</b>	<b>1,62</b>
	<b>Cv%</b>	<b>4,24</b>	<b>13,27</b>	<b>6,21</b>	<b>7,89</b>	<b>5,34</b>	<b>6,59</b>

Table 2. Initial anthropometric measurements, boys, the 6th grade, average age 12 years

No.	Name	Height	Body weight	Height of the chest	Waisst	Length of arms	The length of foot
1.	A.V.	161	44	82	71	154	25
2.	C.E.	166	54	82	77	165	25
3.	C.S.	157	43	73	72	158	23
4.	C.T.	162	55	72	71	162	24
5.	G.D.	153	42	80	68	149	22
6.	S.M.	160	60	80	79	160	25
7.	T.A.	161	52	73	71	162	25
8.	Z.A.	163	55	82	78	163	25
	<b>A<sub>σ</sub></b>	<b>11</b>	<b>12</b>	<b>10</b>	<b>11</b>	<b>16</b>	<b>3</b>
	<b>X</b>	<b>160,37</b>	<b>50,62</b>	<b>78</b>	<b>73,37</b>	<b>159,12</b>	<b>24,25</b>
	<b>+/-S</b>	<b>3,92</b>	<b>6,71</b>	<b>4,50</b>	<b>4,03</b>	<b>5,30</b>	<b>1,16</b>
	<b>Cv%</b>	<b>2,44</b>	<b>13,25</b>	<b>5,76</b>	<b>5,49</b>	<b>3,33</b>	<b>4,78</b>

Table 3. Final anthropometric measurements, girls, 6th grade, average age 12 years

No.	Name	Height	Body weight	Height of the chest	Waisst	Length of arms	The length of foot
1.	A.E.	161	42	76	69	165	26
2.	B.A.	164	57	72	79	156	25
3.	C.E.	165	46	82	76	166	25
4.	J.A.	156	56	77	77	155	25
5.	L.G.	164	62	73	80	164	26
6.	L.A.	150	34	73	74	149	22
7.	P.R.	164	52	80	70	165	25
8.	P.L.	159	59	83	78	162	25
9.	R.P.	172	67	86	80	182	28
10.	R.A.	152	60	70	86	158	27
11.	S.A.	167	47	80	82	163	26
12.	Z.J.	168	56	83	75	170	26
	<b>A<sub>σ</sub></b>	<b>22</b>	<b>33</b>	<b>16</b>	<b>17</b>	<b>33</b>	<b>6</b>
	<b>X</b>	<b>161,83</b>	<b>53,16</b>	<b>77,91</b>	<b>77,16</b>	<b>162,91</b>	<b>25,5</b>
	<b>+/-S</b>	<b>6,54</b>	<b>9,35</b>	<b>5,16</b>	<b>4,82</b>	<b>8,32</b>	<b>1,44</b>
	<b>Cv%</b>	<b>4,04</b>	<b>17,58</b>	<b>6,62</b>	<b>6,24</b>	<b>5,10</b>	<b>5,64</b>

Table 4. Final anthropometric measurements, boys, 6th grade, average age 12 years

	Height	Body weight	Height of the chest	Waisst	Length of arms	The length of foot
A <sub>σ</sub>	17,5	19,5	13	15	22	4,5
X	158,1	46,66	78,01	71,6	156,35	24,35
+/-S	5,29	6,04	4,65	4,8	6,65	1,37
Cv%	3,34	12,93	5,95	6,67	4,23	5,61

Table 5. Mean initial anthropometric measurement, class VI

	Height	Body weight	Height of the chest	Waisst	Length of arms	The length of foot
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A <sub>a</sub>	16,5	22,5	13	14	24,5	4,5
X	161,1	51,89	77,95	75,26	161,01	24,87
+/-S	5,23	8,03	4,83	4,42	6,81	1,3
Cv%	3,24	15,41	6,19	5,86	4,21	5,21

Table 6. Mean final anthropometric measurement, class VI

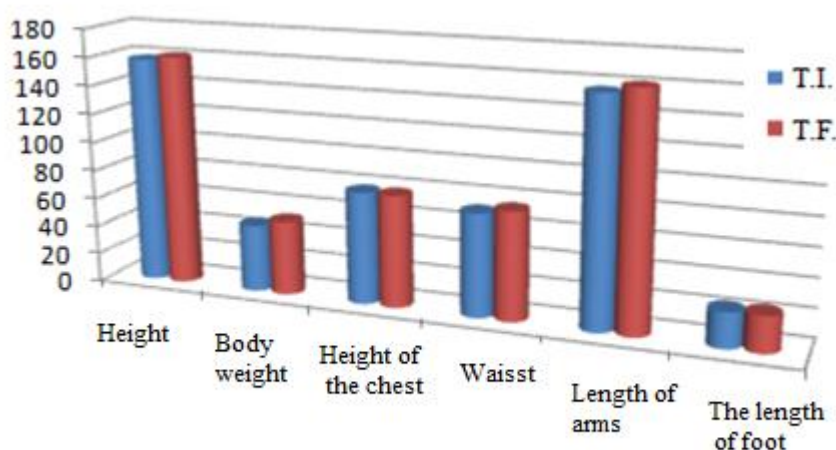


Figure 1. Initial and final middle-class measurement

Comparing the results obtained at the initial measurement with the results from the final measurement, the average per class, it is observed in the above representation that the height has an increase of 3 cm, the weight increases by 5,23 kg, the height of the bust decreases by 0,86 cm, the abdominal perimeter increases 3,66 cm, the width of the arms increases by 4,66 cm, and the length of the sole has an increase of 0,52 cm.

	F/M	Height	Body weight	Height of the chest	Waisst	Length of arms	The length of foot
m <sup>i</sup>	girls	157,3	45,5	77,62	70,12	153,62	24,12

m <sup>f</sup>		160,37	50,62	78	73,37	159,12	24,25
m <sup>l</sup>	boys	158,91	47,83	78,41	73,08	159,08	24,58
m <sup>f</sup>		161,83	53,16	77,91	77,16	162,91	25,5

Table 7. Mean and final measurement for girls and boys, 6th grade

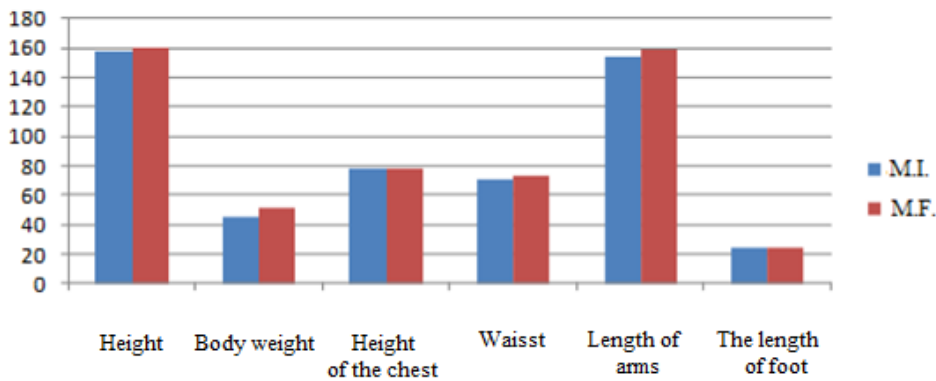


Figure 2. Initial and final measurement of average girls

Comparing the results obtained at the initial measurement with the results from the final measurement, the average girls, it is observed in the above representation that the height has an increase of 3,07 cm, the weight increases by 5,12 kg, the height of the bust increases by 0,38 cm, the abdominal perimeter increases 3,25 cm, the width of the arms increases by 5,5 cm, and the length of the sole has an increase of 0,13 cm.

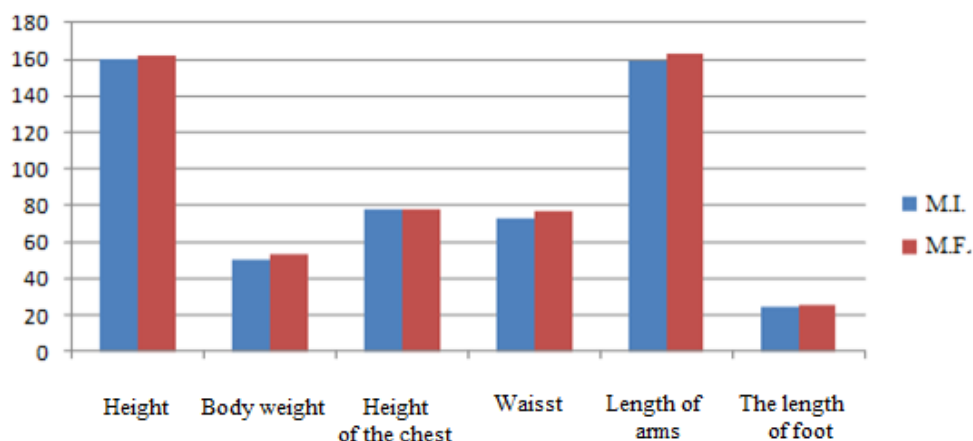


Figure 3. Initial and final measurement average boys

Comparing the results obtained at the initial measurement with the results from the final measurement, the average girls, it is observed in the above representation that the height has an increase of 2,92 cm, the weight increases by 5,33 kg, the height of the bust decreases by 0,5 cm , the abdominal perimeter increases 4,08 cm, the width of the arms increases by 3,83 cm, and the length of the sole has an increase of 0,92 cm.

### Conclusions

Following the constant study, we found significant differences from the initial measurement to the final one, which is encouraging. The students had a positive attitude and participated actively in the measurements made during the study. I specify that as a result of this study I have established a level of physical development according to the age and sex of the students, we have detected certain physical deficiencies and I have taken the correct measures in order to correct them and to indicate the means that can maintain an optimal state of health.

Considering the development of more pronounced psychomotor skills in the final test, it helps the students to obtain higher grades, sometimes maximum, the control samples by easily promoting them. This can be an incentive for students to practice physical activity in an organized setting, and those who want to move have the opportunity to put into practice what they have learned in school and in their free time.



In order to combat sedentary lifestyle, poor physical development, weight gain, physical exercise must be practiced under all its forms of manifestation in both an organized and leisure time setting.

As a means of attraction for children, movement games make a great contribution to physical exercise. The organization of the games must be led by a competent person who, through the professionalism he has acquired, will also transmit to the children the desire to move and the removal of all activities such as the television, computer games, etc.

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## **STUDIUL CONSTATATIV PRIVIND PROFILUL ANTROPOMETRIC AL ELEVULUI DIN CLASA A VI-A**

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**Cuvinte cheie: elevi, gimnaziu, măsurători.**

### **Abstract:**

Evaluarea antropometrică este un mijloc de estimare a dezvoltării fizice centrată pe măsurători ale corpului uman, pe anumite segmente sau pe întreg corpul. Principalul aspect a evaluării antropometrice este reprezentat de compararea rezultatelor din punct de vedere matematic, prin cifre, grafice. În vederea realizării obiectivului propus, privind măsurătorilor antropometrice am folosit teste care aveau ca obiectiv măsurarea înălțimii, a greutateii, a înălțimii bustului, a perimetrului abdominal, anvergura brațelor și a tălpii. Acest studiu are ca scop

prezentarea metodelor de evaluare somatică la nivelul clasei a VI-a și examenul antropometric privind creșterea și dezvoltarea armonioasă, care prin aceste măsurători putem verifica dacă elevii se încadrează în limitele normale, sub acestea sau depășește nivelul normal în funcție de vârstă și sex.