

## COMPARATIVE ANALYSIS OF PHYSICAL DEVELOPMENT OF ACADEMIC LYCEUM STUDENTS IN SOUTH UZBEKISTAN

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**Abstract.** *The article is devoted to the study of the physical development of 17-18-year-old students studying in academic lyceums in the cities of Karshi and Termiz. The results of the respondents' physical development were compared according to the international Kettle index.*

**Keywords:** *Kettle index, physical development, morphological index, urbanization, healthy lifestyle platform.*

**Actuality of the topic:** In recent years, large-scale reforms in the social sphere, healthcare, education and sports, improving the quality of life and culture of our people, and strengthening social protection are given importance as priority issues, and significant results are being achieved in this regard. In particular, physical education and sports strengthen the health of children and adolescents. Exercising helps students to develop physically and mentally. Development of students' physical abilities (agility, dexterity, strength, endurance, resilience) and vital movement skills - walking, running, preparing to march in a line, correcting stature, and performing balance exercises are of great practical importance in shaping them into mature people in all respects [1,2,5,6,7].

Their physical activity is of particular importance in maintaining and further strengthening the health of adolescents and ensuring that their mental and physical activity is appropriate. A large part of students' life is spent mainly in educational institutions (secondary general education schools and academic lyceums). During this period, in addition to participating in physical education classes, they perform appropriate actions in the process of engaging in other activities (socially useful work, participation in science clubs, etc.). They eliminate various unpleasant conditions in the adolescent's body, refresh the body, strengthen the nervous system, raise the mood, and ensure good learning of the educational material [3,8,9,10].

**Object and subject of the research:** Observations were conducted on students studying at the academic lyceum of the Karshi State University and the academic lyceum of the Karshi Institute of Engineering Economics, the academic lyceum of the Termiz State University and the academic lyceums of the Termiz branch of the Tashkent State Technical University named after Islam Karimov. The total number of students taken as the object of the research is 524, of which 228 students in Karshi (91 boys, 137 girls) and 296 students in Termiz (214 boys, 82 girls). Conventional anthropometric measurements were taken from all respondents during the spring season of 2019.

The results of the students' physical development were analyzed using the international Kettle index. According to it, 18.5-24.9 kg/m<sup>2</sup> is a standard indicator, and those with excess body mass of 25-29.9 kg/m<sup>2</sup> are considered. Results 18.5-17.5 kg/m<sup>2</sup> grade 1, 17.5-16 kg/m<sup>2</sup> grade 2 16-15 kg/m<sup>2</sup> grade 3 and below 15 kg/m<sup>2</sup> are defined as having very low body mass.

**Obtained results and their analysis:** According to the data obtained on the physical development of students, 17-year-old boys of the academic lyceum have a normal body mass in both cities, on average 81.95%, those with low body mass of the I degree are 9.5%, those with low body mass of the II degree 5.75%, those with excess body mass were recorded only among the students of Karshi Academic Lyceum. In this age group, those with very low body mass and obesity of II degree were not observed.

Among 17-year-old schoolgirls, those with normal body mass averaged 76.2%, those with low body mass of the I degree averaged 11.25%, those with low body mass of the II degree averaged 5.5%, those with excess body mass averaged 4, 5%, obesity of the first degree was noted to be 1.8%. Those with low body mass of the III degree were identified in subjects living in the city of Termiz. 17-year-old girls with very low body mass were not observed.

80.0% of the 18-year-old boys with normal body mass, I and III degrees of low body mass and overweight were found in boys living in Termiz, and those with II degree of low body mass were found in Karshi Academic Lyceum. In 18-year-old men, those with very low body mass and obesity of the I degree were not observed (see table).

**Distribution of academic lyceum students in Karshi and Termiz by body mass index (2019, in %)**

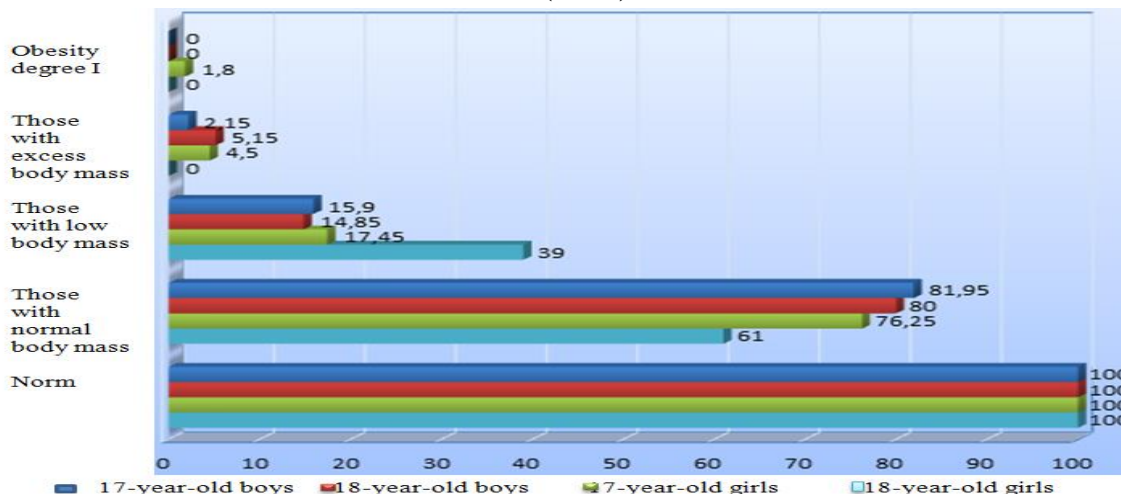
Age	Number (%)	Those with normal body mass	Those with low body mass				Those with excess body mass	obesity degree I
			I	II	III	Very rare		
<b>Boys</b>								
17	<u>10,03</u>	<u>80,5</u>	<u>10,4</u>	<u>5,2</u>	<u>1,3</u>	-	<u>2,6</u>	-
	22,79	83,4	8,6	<u>6,3</u>	-	-	1,7	-
Total	32,82	81,95	9,5	5,75	0,65		2,15	
18	<u>1,83</u>	<u>85,7</u>	-	<u>14,3</u>	-	-		-
	5,08	74,4	12,8	-	2,5	-	10,3	-
Total	6,91	80	6,4	7,15	1,25		5,15	
<b>Girls</b>								
17	<u>16,28</u>	<u>79,2</u>	<u>11,2</u>	<u>4</u>	-	-	<u>4,8</u>	<u>0,8</u>
	9,25	73,3	11,3	7	1,4	-	4,2	2,8
Total	25,52	76,2	11,25	5,5	0,7		4,5	1,8
18	<u>1,57</u>	<u>58,4</u>	<u>25</u>	<u>8,3</u>	<u>8,3</u>	-	-	-
	1,44	63,6	18,2	9,1	9,1	-	-	-
Total	3	61	21,6	8,7	8,7	-	-	-

Among 18-year-old girls in both cities, it was found that those with a normal body mass were on average 61%, those with low body mass of the I degree were 21.6%, and those with low

body mass of the II and III degrees were on average 8.7%. In 18-year-old girls, unlike girls in the 1st age group, overweight and obesity were not observed.

If the data presented in the table are analyzed graphically, it can be seen that the results are at the standard level and partially exceed it.

**Distribution of academic lyceum students in Karshi and Termiz by body weight index (in %)**



The relevant differences observed in the results obtained from both cities in the southern region of our republic can be explained by the lifestyle of students, especially local traditions, specific nutrition, socio-economic support of families and other reasons. In order to eliminate the mentioned shortcomings in time, it is appropriate to form the principles of a healthy lifestyle among children and adolescents by parents, educators-coaches in preschool educational institutions, and relevant specialists in educational institutions.

**Conclusion.** Based on the above, it is worth saying that a number of shortcomings were noted in the physical development of academic lyceum students studying in the conditions of the cities where we conducted research, and they have a negative impact on the formation of young students as well-rounded people. In order to eliminate these defects in time, a healthy lifestyle platform based on living conditions (healthy nutrition, active physical activity and appropriate sports, correction of environmental inconsistencies, rest and constant supply of clean drinking water, stress factors related to studying and teaching) prevention, etc.) is important to develop and implement.

Thus, the indicators of the body mass index of schoolchildren in most cases do not correspond to the standard level. At the same time, excess body mass, obesity of the first degree and low body mass of the third degree are observed among them. This situation can have a negative impact on their health.

Promoting a healthy lifestyle among students requires constant training by parents at home, teachers-coaches at school to be physically active, engage in physical education exercises, and to teach them the principles of healthy eating.

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