COMPARATIVE CHARACTERISTICS OF SELECTED SOMATIC CELL CONSTRUCTION AMONG STUDENTS OF THE UNIVERSITY OF RZESZOW AND HIGHER PEDAGOGICAL SCHOOL IN RZESZOW

Robert **CZAJA**[ACD], Danuta **FUS**[ACD], Ewa **NOWOSAD-SERGEANT**[DE], Aneta **PRZEPIÓRA**[DE], Renata **GRZYWACZ**[GF]

Faculty of Physical Education, University of Rzeszow, Rzeszow, Poland

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Abstract:
The aim of the work was the analysis of selected features of the construction of the somatic cell of men and women studying in Rzeszow within fifteen years at the Faculty of physical education. The figures were compared with anthropometric parameters test results of students in 1999 and 2000. On the basis of comparative characteristics there were noted significant differences of the population studying in 2015 compared to peers from the years 2000 with regard to the construction of the parameters analyzed somatic cell.

INTRODUCTION

Contribution to the knowledge on the development of academic research have brought the youth physical students conducted in the various regions and colleges in Poland, where authors show a different kind of relationship between the performance of the motor capacity and various parameters of the construction of somatic cell of the body. This, in turn, raises the question about the causes of variation in the levels of development of somatic and physical fitness of students and their scope and the relationship with the region or the field of studies [Czarny 2007; Pasiut 2012]. Throughout the Polish research there is the construction of somatic cell of children, young people and students. The analysis is subject to a variety of measurements, but the most fundamental is the height, weight and fat-folds. These studies are conducted in different provinces and regions of different eco-environments, different social environments and places of residence of different urbanization levels. Based on analyses carried out in ten-year intervals there can be noted the trend of variation, called secular trends, which indicate the directions of changes in the construction of the somatic cell. It gives the ability to predict the evolution of the overlap in the future within the studied traits. Measurements and analysis carried out among those studying physical education are an important reference point in the case of inter population in relation to the long-term changes concerning the construction of the somatic cell due to the stability criterion for selection. Being familiar with direction of transformation in society, there is a possibility of better use of positive change and address the negative, both within individual regions, as well as in the national scale [Przewęda 2009, Podstawski ,Borysławski 2012].

MATERIAL AND METHOD RESEARCH

The research was conducted in 2015. Anthropometric parameters were evaluated among 80 students of both sexes at the age of 21 years at the Faculty of Physical Education University of Rzeszow. Anthropometric measurements of selected somatic features were made in accordance with generally accepted measurement technique described in

[Malinowski, Bożiłow 1997]. Obtained results were subjected to statistic analyze. Characterizing variables there were used descriptive statistics: sample size (n), the arithmetic mean ($\bar{x}$), standard deviation (SD). Basic characteristics of numeric parameters were compared with anthropometric studies students of Higher Pedagogical School in Rzeszow in the years 1999-2000 [Asienkiewicz, 2010] and are presented in the form of tables and charts.

RESEARCH RESULTS

Table 1. Characteristics of numeric parameters anthropometric female students of physical education – University of Rzeszow and Higher Pedagogical School in Rzeszow in 2015 and 1999/2000

♀	UR - physical education in 2015 (n=36)		Higher Pedagogical School in Rzeszow - physical education in 1999/2000 (n=38)	
	$\bar{x}$	SD	$\bar{x}$	SD
Body height [cm]	166,38	4,28	166,17	6,9
Body mass [kg]	56,81	3,27	53,62	5,52
Fatty tissue under the spatula [mm]	11,52	4,61	10,87	2,24
Adipose tissue in the abdomen [mm]	17,58	5,12	11,71	3,21
Arm circumference [cm]	26	2,1	23,07	1,36
The circumference of the largest thighs [cm]	53,9	3,06	50,95	3,28

Source: Own elaboration, Asienkiewicz 2010

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Table 2. Number characteristics of numeric parameters anthropometric male students of physical education – University of Rzeszow and Higher Pedagogical School in Rzeszow in 2015 and 1999/2000

♂	UR - physical education in 2015 (n=44)		Higher Pedagogical School in Rzeszow - physical education in 1999/2000 (n=48)	
	$\bar{x}$	SD	$\bar{x}$	SD
Body height [cm]	179,17	5,74	177,66	6,48
Body mass [kg]	74,01	7,24	72,3	8,39
Fatty tissue under the spatula [mm]	9,96	2,7	13,93	3,61
Adipose tissue in the abdomen [mm]	12,9	4,82	12,88	4,31
Arm circumference [cm]	28,79	2,19	28,22	2,37
The circumference of the largest thighs [cm]	57,8	11,31	54,5	3,72

Source: Own elaboration, Asienkiewicz 2010

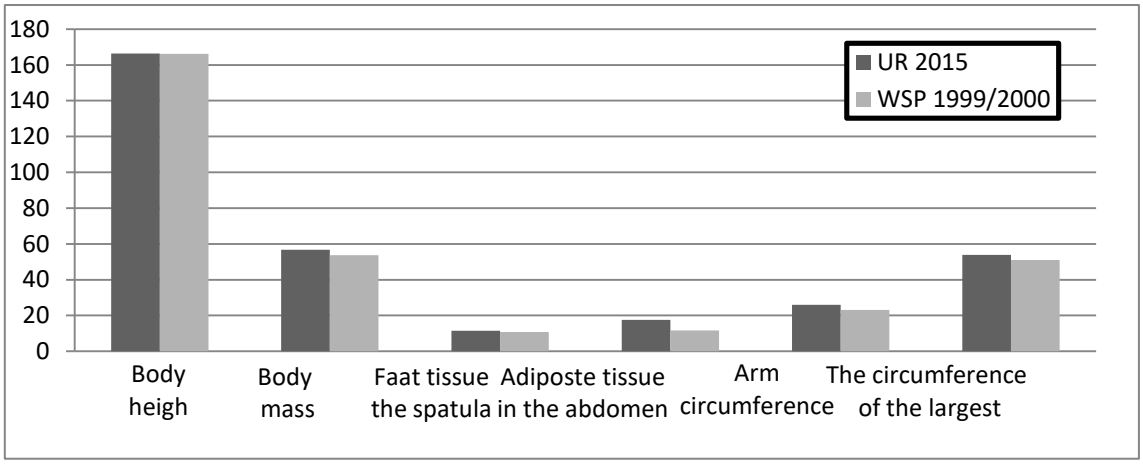

Chart 1. Graphic characteristics of numeric parameters anthropometric female students of physical education – University of Rzeszow and Higher Pedagogical School in Rzeszow in 2015 and 1999/2000
Source: Own elaboration, Asienkiewicz 2010

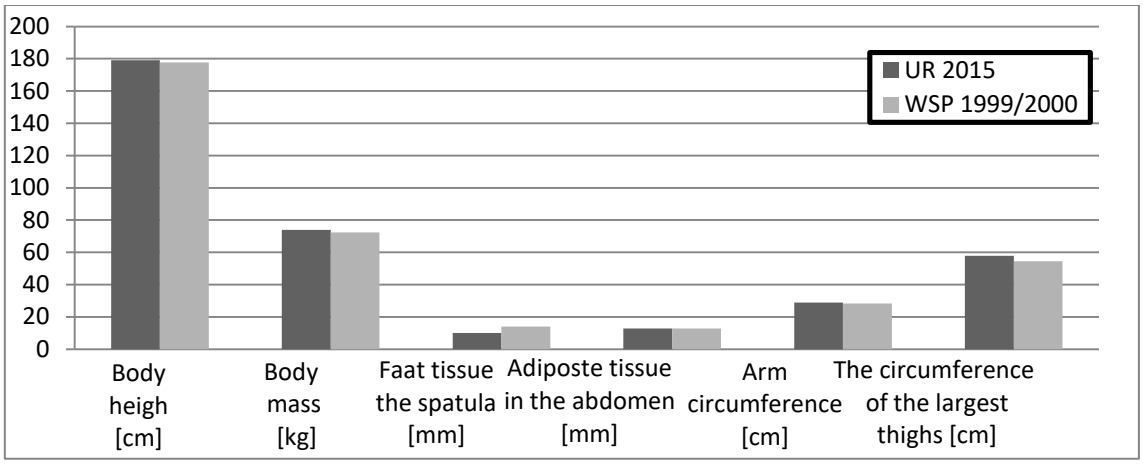

Chart 2. Graphic characteristics of numeric parameters anthropometric male students of physical education – University of Rzeszow and Higher Pedagogical School in Rzeszow in 2015 and 1999/2000
Source: Own elaboration, Asienkiewicz 2010

CONCLUSIONS

On the basis of tests carried out among women and men at the age of 21, who have studied physical education at the University of Rzeszow, comparison was made of selected somatic features included in studies in 2015 in relation to population surveys from the years 1999-2000, studying the same direction in the Higher Pedagogical School in Rzeszow. Among the analyzed characteristics there were observed changes in mean values of body height, body weight, circuits, arm, thigh and folds of fatty-area and abdominal male and female students surveyed in 2015 to the population in the years 1999-2000. The average height of the men body with modern research has reached higher average value of about 2 cm. In comparison to peers from 2000 – among women there were no significant differences and the results were similar. Weight of both sexes was higher - on average - about 3 kg and 2 kg in men studying in 2015 with relation to the population of Higher Pedagogical School in Rzeszow. Test circuits the widest arm and thigh showed that larger average results by about 2 cm have been reported in students and female students of University of Rzeszow than their peers from 2000. The thickness of the fold of skin-on belly fat has revealed significant

differences in the population of students with study 1999-2000, which reached the lower average values of about 6 cm compared to peers from 2015. While the analyzed parameter among men did not show significant differences and achieved similar results. Despite the significant difference in the trait among female students of University of Rzeszow and Higher Pedagogical School in Rzeszow, a cross-crease subscapularis showed similar values, that were approximately 11 mm. Mean values of the analyzed parameter in students of UR were lower compared to the population of 2000 and amounted to about 9 mm. After the comparative characteristics there were noted significant changes both in women as well as men studying in 2015 compared to peers from the years 2000 with regard to the construction of the parameters analyzed somatic cell. This may indicate that to observed changes better socio-economic facilities have contributed, where analyzed population has grown, as well as peer environment, from which young people take over certain habits and behaviors.

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