



New Trends and Issues Proceedings on Humanities and Social Sciences



Volume 4, Issue 8, (2017) 40-46

ISSN:2547-8818

www.prosoc.eu

Selected paper of 8th World Conference on Learning, Teaching and Educational Leadership, (WCLTA 2017) 26-28 October 2017, Universidade Aberta, Lisbon, Portugal

Comparative study regarding the bio-motric potential of rural and urban students

Gabriel Lupu ^{a*}, "Vasile Alecsandri" University of Bacau, Marasesti St. 157, 600115 Bacau, Romania

Suggested Citation:

Lupu, G. (2017). Comparative study regarding the bio-motric potential of rural and urban students. *New Trends and Issues Proceedings on Humanities and Social Sciences*. [Online]. 4(8), 40–46. Available from: www.prosoc.eu

Selection and peer review under responsibility of Prof. Dr. Jesus Garcia Laborda, University of Alcala, Spain .

©2017 SciencePark Research, Organization & Counseling. All rights reserved.

Abstract

The issue of the biomotric potential represents a morphological and functional synthesis and requires careful and detailed investigation to establish its various stages and interconnections. The main goal of this study was to conduct a unitary evaluation of the biomotric potential of pupils in high school classes. There are few studies for the determination of the motric and somato-functional potential of the school population in general, but there is no comparison study between pupils of the urban and rural environments. Information about pupils' physical development, scarce skills of their locomotor system and body position, as well as about their fitness condition are derived from the evaluation of their biomotric potential. As conclusions, we may assert that the required tests should be distinctively approached as evaluation, there should be higher concern for equipment of educational infrastructure in the rural environment, as well as a nutrition programme to support rural high school students.

Keywords: Biomotric potential, urban/rural, school population.

* ADDRESS FOR CORRESPONDENCE: **Gabriel Lupu**, "Vasile Alecsandri" University of Bacau, Marasesti St. 157, 600115 Bacau, Romania.

E-mail address: teresis2002@yahoo.com / Tel.: +40-737-035-936

1. Introduction

The most important component of physical education in school is the permanent concern for children's health strengthening, harmonious physical development and to ensure the necessary elements for the optimisation of psycho-motric qualities, skills and knowledge.

From the scientific literature, one can draw the conclusion that children's growth and development doesn't occur at an uniform rate, but is a variable one, having periods of speeding and lagging based on age, social conditions and individual characteristics. Also, the advances of technology and its contribution to a sedentary lifestyle has influenced the phenotype of children, today's generations being heavier and having a greater body mass index than the generations in the past 20–30 years (Ogden, Carroll, Kit & Flegal, 2012).

It is known that physically active and inactive children progress through identical stages. Physical education curricula are based on an understanding of the growth patterns and developmental stages and are critical to provide appropriate movement experiences that promote motor skill development (Clark, 2005).

At the level of Bacau county, there are a few studies of determination of the motric and somato-functional potential of the school population in general, but there is no comparative study between pupils of the urban environment and those of the rural environment.

The needed information about pupils' physical development, about scarce skills of their locomotor system and body position, as well as about their fitness condition (indexes of force evidence, resistance, coordination, balance, speed under various forms, grace etc.) are derived from the evaluation of their biomotric potential.

2. Goals, Tasks and Stages of the Study

Our main goal consisted in making a unitary assessment of the bio-motric potential of students from different college types (urban, rural)

To accomplish this, we focused on the following tasks:

- Study of scientific literature and other information sources for the sake of deepening the proposed subject;
- Establishing the hypothesis and the methods for validating it;
- Finding human subjects and getting their permission to participate in the study;
- Choosing the measurements and evaluation tests conforming to the curriculum;
- Presentation and interpretation of the results obtained by applying the tests and measurements;
- Verification of the hypothesis elaborated and drawing conclusions about the activity carried out and the results obtained.

Our study was conducted during 2016–2017, having the following stages:

- 1st stage (October 2016) – choosing the research goal and studying the scientific literature
- 2nd stage (November 2016) – identifying the potential, willing to participate, colleges and contacting the teachers
- 3rd stage (December 2016 – March, 2017) – doing the anthropometrical measurements, applying the tests for the evaluation of bio-motric potential, applying the questionnaire regarding the eating
- 4th stage (April, 2017) – processing the recorded data through statistics, formulating the conclusions and finalising the paper

3. Hypothesis

In this research, we assumed the hypothesis that the material and social conditions, the teaching resources, all different between urban and rural places, have a significant influence on the biomotric potential of college students.

4. Conducting the Study

4.1. Scientific research methods

In our study, we used the following scientific research methods (Epuran, 2005; Tudor, 2005):

- Bibliographic study method
- Observation method
- Testing method (maximum push-ups, long jump on the spot, fast running to a 50 m distance, anthropometrical measurements)
- The questionnaire method (regarding daily meals and breakfast frequency)
- The statistical method
- Plotting method

4.2. The subjects

Our study was applied on 25 students from a rural area (10 girls) and 29 students from urban area (13 girls). The study was conducted during the first semester of the 2016/2017 scholar year, separately for girls and boys.

5. Results

The results recorded for the physical tests and anthropometrical measurements are given in Tables 1–4 and plotted in Figures 1–4

Table 1. Results obtained by girls – urban

Item no.	Name	Weight (kg)	Height (cm)	Max push-up	Long jump on the spot (cm)	Fast run 50 m (s)
1	A.M.	58	149	5	141	7.9
2	A.N	54	160	6	179	7.55
3	A.B	50	153	2	163	7.39
4	B.C	51	157	7	175	8.07
5	B.A	49.5	164	9	167	7.82
6	C.D	57	166	3	174	7.01
7	G.R	55	160	1	177	8.52
8	G.A	52	159	3	172	8.15
9	L.I	53	162	4	173	8.12
10	M.O	49.5	175	6	169	7.1
11	N.I	50.5	155	8	175	7.06
12	N.A	51.5	167	5	174	6.9
13	U.I	52	163	5	172	7.17
	Mean	52.53	160.76	4.92	170.07	7.59
	Std. dev.	2.75	6.68	2.32	9.69	0.53

Table 2. Results obtained by girls – rural

Item no.	Name	Weight (kg)	Height (cm)	Max push-up	Long jump on the spot (cm)	Fast run 50m (s)
1	A.A	57	157	5	122	8.3
2	A.O	47	165	3	150	8.55
3	A.N	45	160	6	161	7.9
4	B.A	43	161	1	165	8.2
5	B.L	52	158	0	132	8.34
6	B.R	48.5	164	5	147	8.05
7	F.C	52	155	2	167	9.12
8	M.F	41	150	4	166	8.63
9	P.I	58	157	5	156	8.81
10	V.D	43	156	3	166	8.05
	Mean	48.65	158.3	3.4	153.2	8.39
	Std. dev.	5.94	4.42	1.95	15.62	0.38

Table 3. Results obtained by boys – urban

Item no.	Name	Weight (kg)	Height (cm)	Max push-up	Long jump on the spot (cm)	Fast run 50m (s)
1	B.F	56	160	10	170	7.92
2	C.G	69	169	17	202	7.05
3	L.A	58	166	14	173	7.64
4	N.A	47	156	9	161	8.28
5	R.L	71	169	10	169	7.57
6	S.R	56	157	9	163	7.24
7	S.M	52	172	16	170	8.25
8	T.V	58	159	10	172	7.17
9	T.A	59	167	12	164	8.42
10	M.B	63	176	9	163	7.44
11	I.A	57	166	13	171	7.98
12	A.M	56	162	10	168	8.12
13	B.A	43	154	11	160	8.24
14	N.V	52	155	13	159	7.31
15	G.A	61	166	24	142	7.85
16	S.M	43	156	13	170	8.1
	Mean	56.31	163.12	12.5	167.31	7.78
	Std. dev.	7.89	6.68	3.93	11.96	0.44

Table 4. Results obtained by boys – rural

Item no.	Name	Weight (kg)	Height (cm)	Max push-up	Long jump on the spot (cm)	Fast run 50m (s)
1	B.R	58	162	6	169	7.7
2	C.D	57	164	9	171	7.1
3	S.S	60,5	168	12	203	7.2
4	V.M	57	166	8	173	7.71
5	G.A	59	171	11	170	7.2
6	M.N	58	166	10	193	7.5
7	E.I	62	167	11	179	7.93
8	F.I	74	188	4	194	8.11
9	S.T	59.5	172	17	170	7.45
10	Z.I	59	168	11	175	8.1
11	V.F	63	160	9	166	6.9
12	N.L	61	163	7	167	7.25
13	D.F	63	165	10	170	7.1
14	S.T	70.5	177	14	169	6.9
15	U.S	59	174	9	172	7.5
Mean		61.36	168.73	9.86	176.06	7.59
Std. dev.		4.86	7.03	3.15	11.3	0.53

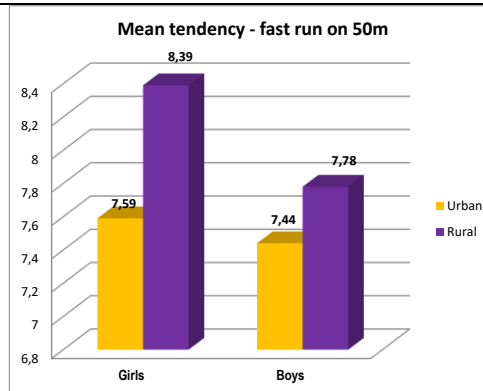


Figure 1. Mean tendency – fast run

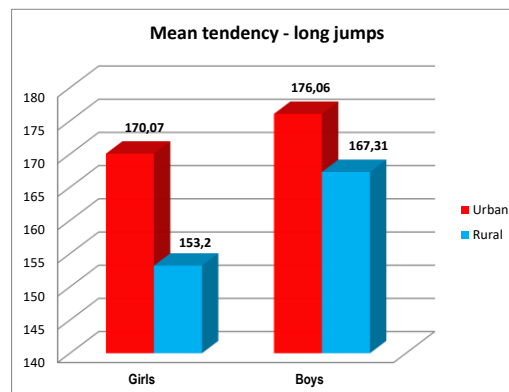


Figure 2. Mean tendency – long jumps

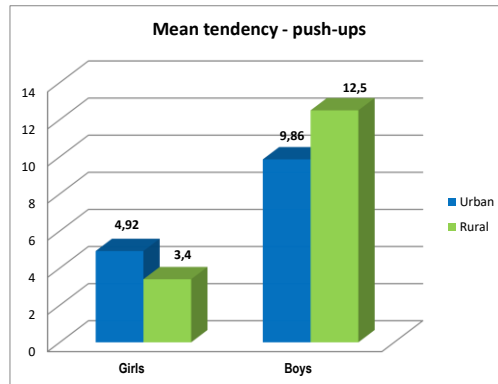


Figure 3. Mean tendency – push-ups

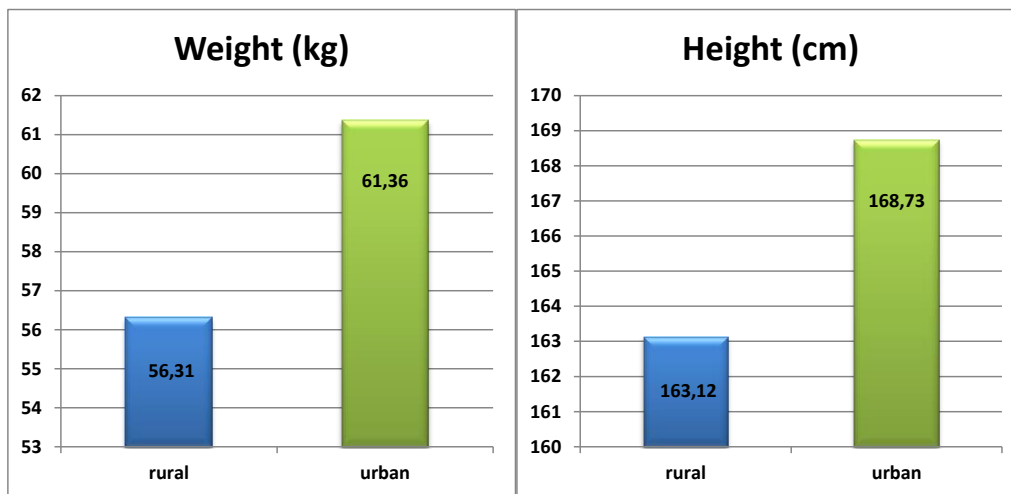


Figure 4. Mean tendency – weight and height

The responses from nutritional questionnaire are plotted in Figures 5 and 6.

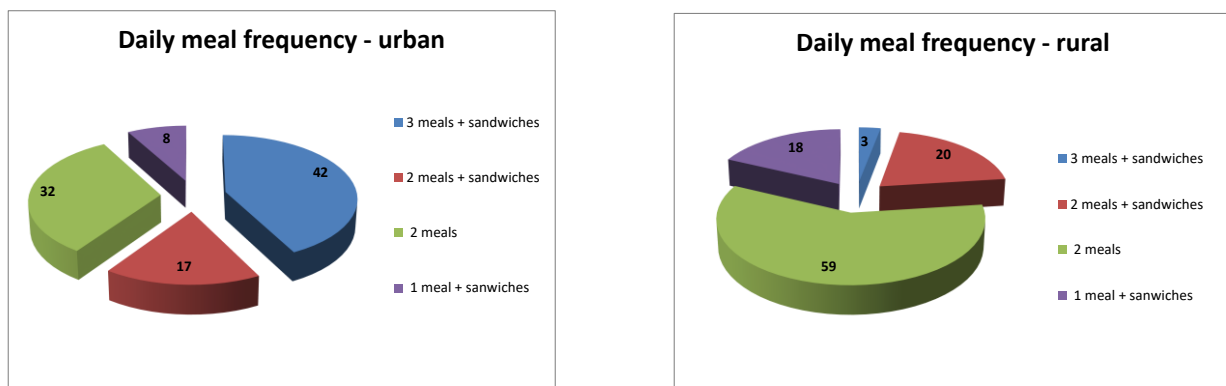


Figure 5. Daily meals frequency

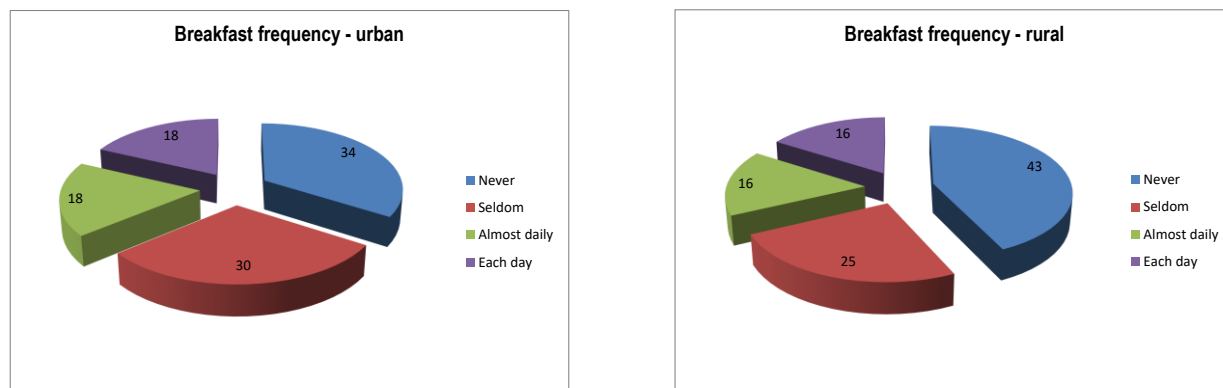


Figure 6. Breakfast frequency

6. Discussion

This study aimed to confirm the hypothesis on which the physical and anthropometrical qualities differ greatly between urban and rural students due to the superiority of material equipment (there is not even a sport hall in some rural places), low-quality eating and the diminished interest of both students and teachers about the fact that the curriculum doesn't make a difference in their assessment.

Though the number of subjects was small, we can confirm the hypothesis; thereby, the anthropometric measurements showed that boys and girls have different values for height and weight.

Regarding the physical tests, there are differences slightly superior for urban students. Paradoxically, for strength in the endurance spectrum of the upper train muscles, the rural college students show better results, which can be explained by the daily physical activities in the family; for the girls, such differences were not observed.

Not irrelevant, but even worrying is the lack of food rigour, and even the existence of a nutritional deficit, both quantitative and qualitative, which is shown by the applied questionnaire.

Undeniably, there are differences in the bio-motric potential for both the categories, which leads us to propose that this study should be applied on a larger scale, successively to each high school class in order to identify the causes of these differences and, if necessary, to impose a differentiated assessment.

7. Conclusions

Although a lot of normative acts have been edited, promoted and enacted, aimed at increasing the capacity to organise and develop physical education and sports in Romania (MTS, 2012; MEN, 1999), despite support programs, even in terms of supplementing pupils' nutrition (Horn and Milk Programme), there seems to be no homogeneity and coherence in the preparation of urban and rural students, especially due to major differences between the material bases, the different socio-economic conditions and the inflexibility of the various didactic and family factors.

Our study has confirmed the hypothesis that material, social and teaching resources, differing between urban and rural, significantly influence students' bio-motric potential. Without claiming that the data collected are eloquent in the sense that the sample was perhaps too small, there is a clear difference between students' bio-motric potential and the opportunity for the control samples required to be treated differently as an assessment. There exists a greater concern for endowment of the teaching infrastructure, in the sense of practicing physical education classes in rural areas, as well

as the implementation of a food support program for high school students or only those with a special social situation.

References

- Clark, J. E. (2005). From the beginning: a developmental perspective on movement and mobility. *Quest*, 57(1), 37-45.
- Epuran, M. (2005). *Metodologia cercetarii activitatilor corporale* (2nd ed.). Bucuresti, Romania: FEST.
- MEN. (1999). Sistemul National Scolar de Evaluare la disciplina Educatie Fizica si Sport. Ministerul Educatiei Nationale – Serviciul National de Evaluare si Examinare, Editura Scoala Romaneasca.
- MTS. (2012). *Strategia de organizare si dezvoltare a Sistemului de Educatie Fizica si Sport din Romania pe perioada 2012 – 2032*. Bucuresti, Romania: Societatea Romana pentru educatie fizica si sport.
- Ogden, C., Carroll, M., Kit, B. & Flegal, K. (2012). Prevalence of obesity and trends in body mass index among U.S. children and adolescents, 1999–2010. *Journal of the American Medical Association*, 307(5), 483–490.
- Tudor, V. (2005). *Masurare si evaluare in cultura fizica si sport*. Bucuresti, Romania: Alpha.