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A STUDY CONCERNING ANTHROPOMETRIC AND MOTRIC POTENTIAL OF HIGH SCHOOL STUDENTS IN VATRA DORNEI TOWN AND SURROUNDINGS

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Key words: *study, anthropometry, motric, high school*
Abstract: *Identifying anthropometric and motric profile of high school student would help to optimize the Physical Education Curricula at this level and to adapt it to motric potential and somatic development level of today's students. The main goal is to shape the anthropometric and motric profile of the high school students. Anthropometric data indicate values comparable to those achieved in previous studies for boys, and below this level for girls. Results and calculation of body mass index indicated overweight trends confirmed by calculating body mass index compared to previous studies.*

Introduction

The anthropometric and motric potential structure of the high school students is dynamic and requiring careful research to determine its components and characteristics.

From this point of view, experts have intensively studied in order to exactly determine its content and features.

Material and method

Identifying anthropometric and motric profile of high school student would help to optimize the Physical Education Curricula at this level and to adapt it to motric potential and somatic development level of today's students.

The main goal is to shape the anthropometric and motric profile of the high school students.

Work tasks:

- Study experts'opinion regarding this topic;
- Establish the sample on which the reasearch will be performed;
- Test the subjects to determine the level of physical development and of motricity;

– Establish the research findings.

This work is based on a study of Vatra Dornei and surroundings high school students during the 2010 – 2011 school year. Obtaining the necessary research data (anthropometric, motric) was made in April and May 2011. Research sample is composed of 1643 high school students of which 891 boys and 752 girls. The breakdown by class is as follows:

Class	Femaless	Males	Total
IX	211	257	468
X	196	239	435
XI	178	211	389
XII	167	184	351
TOTAL	**752**	**891**	**1643**

In this research there have been established six indicators to be evaluated: 2 somatic indicators and 4 motric indicators.

To test somatic development there was measured the standing height and weight using a mechanical scale.

To test motric ability the students had to pass the following tests: 50 m running speed, standing long jump, trunk lift in 30 seconds, hanging tractions (boys) and keeping the hang (girls).

Results

The data were ordered on high school classes, namely on sexes in order to be compared with those obtained from previous studies.

9^{th} class, males

Parameters	Height (cm)	Weight (kg)	Running speed 50 m (s)	Standing Long jump (cm)	Trunk lift in 30 sec (no reps)	Tractions (no reps)
X	171.21	62.78	8.15	188.50	21.11	7.32
Δ	4.48	7.32	0.27	7.48	2.44	1.85
C.V. (%)	2.87	11.23	3.46	2.82	11.57	26.81

10^{th} class, males

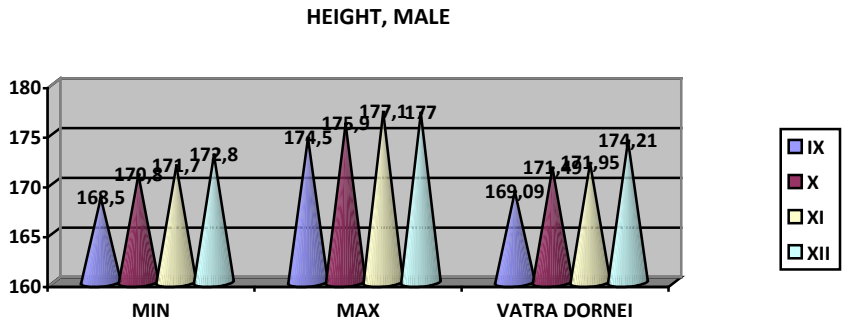
Parameters	Height (cm)	Weight (kg)	Running speed 50 m (s)	Standing long jump (cm)	Trunk lift in 30 sec (no reps)	Tractions (no reps)
X	173.59	65.09	8.07	188.23	21.73	8.17
Δ	7.55	14.10	0.25	9.48	2.52	2.43
C.V. (%)	4.41	21.92	3.09	5.01	11.74	28.72

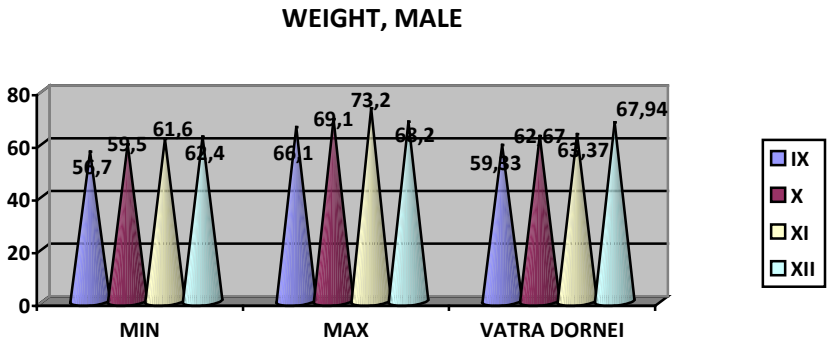
11th class, males

Parameters	Height (cm)	Weight (kg)	Running speed 50 m (s)	Standing long Jump (cm)	Trunk lift in 30 sec (no reps)	Tractions (no reps)
X	174.90	66.77	7.92	189.72	22.79	8.76
Δ	6.97	11.26	0.35	9.25	2.27	3.57
C.V. (%)	4.03	18.41	4.98	4.93	9.99	41.14

12th class, males

Parameters	Height (cm)	Weight (kg)	Running speed 50 m (s)	Standing long jump (cm)	Trunk lift in 30 sec (no reps)	Tractions (no reps)
X	176.21	70.44	7.82	192.49	23.77	9.83
Δ	5.63	4.89	0.34	8.29	2.06	2.60
C.V. (%)	3.18	6.93	4.37	4.31	8.82	27.64





9th class, females

Parameters	Height (cm)	Weight (kg)	Running speed 50 m (s)	Standing long jump (cm)	Trunk lift in 30 sec (no reps)	Keep hanging (no reps)
X	157.96	50.28	9.03	171.59	19.19	42.75
Δ	4.92	5.13	0.38	7.29	2.45	4.90
C.V. (%)	3.13	10.02	4.21	4.32	12.79	11.57

10th class, females

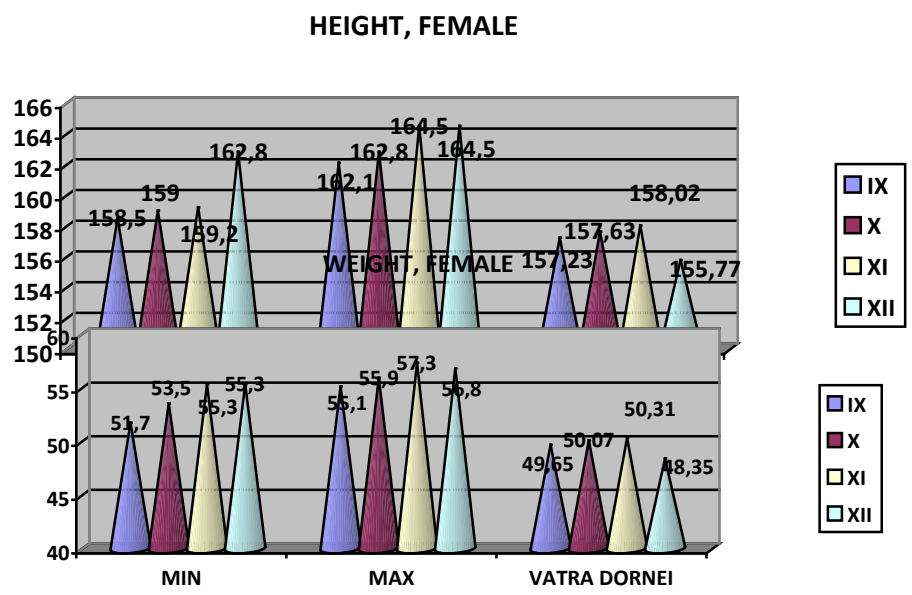
Parameters	Height (cm)	Weight (kg)	Running speed 50 m (s)	Standing long jump (cm)	Trunk lift in 30 sec (no reps)	Keep hanging (no reps)
X	158.43	51.07	8.92	173.27	19.78	46.22
Δ	4.74	4.91	0.40	7.72	2.27	5.52
C.V. (%)	2.97	9.76	4.58	4.44	11.39	11.91

11th class, females

Parameters	Height (cm)	Weight (kg)	Running speed 50 m (s)	Standing Long jump (cm)	Trunk lift in 30 sec (no reps)	Keep hanging (no reps)
X	160.02	53.41	8.82	175.19	20.23	48.15
Δ	4.72	4.95	0.44	7.94	2.48	5.47
C.V. (%)	2.96	9.62	4.98	4.58	12.09	11.67

12th class, females

Parameters	Height (cm)	Weight (kg)	Running speed 50 m (s)	Standing long jump (cm)	Trunk lift in 30 sec (no reps)	Keep hanging (no reps)
X	160.77	52.39	8.71	177.18	20.49	48.48
Δ	4.24	4.52	0.40	9.24	2.55	4.89
C.V. (%)	2.67	9.78	4.72	5.29	12.72	10.11



For tests aiming at determining the motric potential, the results are as follows:

	Averages – Males

Class	Running speed 50 m (s)	Standing long jump (cm)	Lifting the trunk in 30 sec (no reps)	Tractions (no reps)
IX	8.11	181.52	21.62	6.02
X	8.01	184.23	22.08	7.04
XI	7.95	185.12	22.55	8.93
XII	7.72	185.29	22.77	10.81

	Averages – Females			
Class	Running speed 50 m (s)	Standing long jump (cm)	Lifting the trunk in 30 sec (no reps)	Keep hanging (no reps)
IX	8.91	173.29	19.11	46.75
X	8.89	174.17	19.41	46.98
XI	8.90	174.49	19.53	47.15
XII	8.74	177.35	20.19	48.58

Discussions

After conducting this study there has been found the real motric potential and anthropometric profile of high school students, and could thus establish a work program to eliminate gaps of somatic development and improve motric indicators.

Following measurements and analysis of all these indicators we can say that the motric and somatic potential of Vatra Dornei and surroundings high school students are within the margin of previous studies for males, namely below the minimum values obtained for females.

Anthropometric data indicate values comparable to those achieved in previous studies for boys, and below this level for girls. Results and calculation of body mass index indicated overweight trends confirmed by calculating body mass index compared to previous studies.

For the results of motric tests, the data showed low values indicating low performance, mostly contained within grades 5-7.

In physical education lessons it should be kept in mind that the growth process is completed for girls but for boys is nearing completion.

This research has shown that it is essential that the objectives of physical education teaching in high school should be tailored to students' motric potential, which according to our study is in decline and a tendency toward overweight students (BMI - 24 points).

The limited aspect of the study is the fact it was performed locally when most data from previous studies are conducted at national level, in our case the number of subjects being 1643.

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Titlu: Studiu privind potenţialul antropometric şi motric al elevilor de liceu din municipiul Vatra Dornei şi împrejurimi.

Cuvinte cheie: studiu, antropometrie, motricitate, liceu

Rezumat: Identificarea profilul antropometric şi motric a elevilor de liceu ar putea ajuta la optimizarea programele de învăţământ la disciplina Educaţie fizică la acest nivel şi pentru a o adapta la potenţialul motric şi nivelul de dezvoltare somatică a elevilor de astăzi.Scopul principal este de a determina profilul antropometric şi motric a elevilor de liceu. Datele antropometrice indică valori comparabile cu cele obţinute în studiile anterioare pentru băieţi, şi sub acest nivel pentru fete. Rezultate indicelui masei corporale şi calculul indicelui de masă corporală a indicat tendinţe de supraponderalitate, comparativ cu studiile anterioare.

Titre : Une étude concernant le potentiel anthropometrique et motrice des eleves du lycée a Vatra Dornei ville et ses environs.

Mots-clés: étude, l'anthropométrie, motricité, lycée.
Résumé: Identifier le profil anthropométrique et motrice des élèves du secondaire permettrait d'optimiser les cursus de l'éducation physique à ce niveau et de l'adapter au potentiel motrice et le niveau de développement somatique des élèves d'aujourd'hui. L'objectif principal est de former le profil anthropométrique et motrice des élèves du secondaire. Les données anthropométriques indiquent des valeurs comparables à ceux obtenus dans des études antérieures pour les garçons, et au-dessous de ce niveau pour les filles. Résultats et calcul de l'indice de masse corporelle a indiqué les tendances en surpoids confirmés par le calcul de l'indice de masse corporelle par rapport aux études précédentes.