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Original article

COMPARATIVE ANALYSIS OF SOME MOTOR SKILLS OF THE STUDENTS FROM PHYSICAL EDUCATION AND SPORT

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Abstract

Objective. The aim of the study was to analyze comparatively the students from the Faculty of Physical Education and Sport through the quality of their motor skills.

Methods. We used the students of "Vasile Alecsandri" University from Bacau, The Faculty of Science, Movement, Sport and Health (33 males). The motor skills were measured with MGM-15 equipment of National Institute for Sport Research.

Results. The highest values of the power average were recorded by 5 of the 33 students (S10, S13, S14, S19, S25) and the lowest values were also recorded by a number of 5 students (S6, S12, S17, S21, S27). 5 students from 33 recorded the highest values of flight height (S8, S10, S13, S19, S25) and 4 of them developed the lowest flight height (S12, A17, S21, S27). The lowest speed repetition was recorded by 4 students from the group of 33 (S4, S5, S15, S19) and the highest one by 3 of them (S3, S8, S17).

Conclusion. It was found that at the level of the group of the students the qualities showed high values for most of them (~ 23 of the students have recorded close values of power parameters, speed repetition and flight height). It has been found that students who have recorded a high average power have also made the most higher jumps, and also those who showed low values of this parameter made the lowest jumps. We also found that from the whole group of students, S17 recorded the weakest values of all measurement parameters and S 19 recorded the highest values of all measured parameters.

Key Words: motor skills, students, MGM-15, physical education and sport.

Introduction

According to Juvenal "Mens sano in corpore sano", physical education is an extremely important factor of the personality, precisely because it maintains the harmony and healthy development of any human. Since ancient times, the role of physical education and sport has been to secure and develop the human personality. Physical education contributed significantly to the psychosomatic and biological development of the person, being sustained since the beginning by most pedagogues such as: Fr. Rabelais, M. Montaigne, J.A. Comenius-Komensky, J. Locke, J.J. Rousseau.

Physical education has been highlighted and further emphasized by ensuring a functional balance of the body, especially between the physical and the psychological components. In conclusion, the purpose of physical education is not a limited one, it does not focus only on physical development, it is a complex one, it is a part of a system which acts simultaneously with the other aspects to complete the development

of the personality stimulating and developing his psychomotor qualities.

Nicola claim that "physical education becomes an activity that has not only an action content, but it has also pedagogical content, physical education promotes physical and mental transformations in concordance with the educational objectives and professional development of the personality".

Through its formative role, physical education contributes to the development of motor skills, character and attitudinal dimensions of each person.

The profile literature draws in this direction two ways: the first one refers to the contribution made in order to consolidate the general skills manifested by the qualities of the various psychic processes such as the rapidity of thinking, concentrate attention, the spirit of observation, and the second direction consists in updating the natural predispositions and the actual formation of psychomotor skills.

Lucrarea de fata a plecat de la premiza ca majoritatea studentilor de la Facultatea de educatie fizica si sport

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practica sportul de performanta, unde anumite calitati motrice sunt preponderent dezvoltate datorita specificitatii sportului iar orele practice realizate la facultate le uniformizeaza datorita multidisciplinaritatii sporturilor i ntreprinse.

This paper has left from the premise that the most students from the faculty of physical education and sports have a high level of motor skills.

The objective of the study was to analyze comparatively the students from the Faculty of Physical Education and Sport through the quality of their motor skills.

Most students enrolled in Physical Education and Sports practiced or practice a sport performance. The specificity of sport can be seen in the motor skills of each athlete.

Bompa classifies basic motor skills in: strength, speed, endurance, coordination and flexibility (Bompa, 2002, p. 270). In sports performance qualities are complemented, one supporting the other, the difference between their level of development is made by the specificity of the sport that they practiced, so an athlete which is practice sprint will have high speeds, a weight lifter will be remark through the force it develops, etc.

Rata G. in 2006 affirms that psychomotor skills are present in any performing motor action. No movement can be executed without the manifestation in the same time and in a certain proportion of all the skills but with the dominance of one or at most two qualities. They depend on certain attributes of the organism that are coming from the sphere of motricity, heredity and the environment.

The practical courses of physical education and sports within the university aim at developing all the motor skills. Students practice a large aria of sports during their faculty to become good trainers. Among these sports we mention: gymnastics, athletics, swimming, tennis, skiing, handball, volleyball, basketball, etc. Even if the students learn only the basic notions of those sports during practical classes, the practice develops motor skills specific to that sports.

The practical classes made in the faculty and their multidisciplinarity, increase the motor behavior of the students so that they are able to perform any motor activity without having deficiencies of their motor skills.

Belinovici, V. claim that a high level of motor skills is necessary to assimilate the motor actions. The higher the level is, the easier it is for students to have their own specific skills. (Belinovici, 1958, p.23)

Popescu M. considers that the sport practiced in sport's faculty, at the practical classes, fulfills the following objectives:

- involving all students in physical exercise
- harmonious body development, maintaining and improving physical and mental health
- increasing motricity and acquiring the basic elements of the sport area
- Learning practical and theoretical information
- modeling psycho-behavioral states and translating them into the practice of social life (Popescu, 1995, p.14)

Students develop these motor skills in training lesson and in the practical lessons at the faculty of sport. This is a motor, technical and psychological activity that consists of applying a variety of physical exercises, actions and technical elements within them. A workout involves certain material and technical conditions, a lot of work, intense physical effort and the recovery of the body after effort. (Baroga, 1980). In the training lesson, the teacher / coach shares his knowledge of athletes, their task being to develop one or more training factors. In training methodology, training lessons are classified based on their tasks and their shape. Training lessons include learning, repeating, improving skills, and evaluating the movements. The main task is to acquire new skills or tactical actions. (Bompa, 2002, p.126).

Methods

We used the students of "Vasile Alecsandri" University from Bacau, The Faculty of Science, Movement, Sport and Health (33 males). The motor skills were measured with MGM-15 equipment of National Institute for Sport Research.

For this study we made anthropometric measurements (height and weight) for all the students to be able to generate a complete view of motor qualities that we measured.

The "Miron Georgescu Modified -15" test (MGM-15) determines the "defining elements of neuro-motor, energy and control qualities in a maximal effort on the lower limb." (Hillerin). The author of this test wanted to "highlight the general energy resources of an athlete, starting from the idea that the lower limbs are used in any sport, but jumping on two legs and on one leg are natural movements "(Hillerin).

The test involves making 15 jumping ("like a ball") on both legs, 15 jumping on the right foot and 15 jumping on the left foot.

From this test we analyzed the parameters: the average power on both legs (Pua), the power on

the right foot (Pud), the power on the left foot (Pus) which were measured in W / Kg, the repetition speed on both legs (VRa) measured in seconds, the average flight height on both legs (Ha), the mean height of the

right foot flight (Hd) and the mean flight height of the left foot (Hs) measured in meters.

Results and Discussion

Table 1. Anthropometrical characteristics of the subjects

Name	Hight [m]	Weight [kg]	Name	Hight [m]	Weight [kg]
S_1	1.88	70	S_18	1.92	76
S_2	1.87	90	S_19	1.77	78
S_3	1.83	78	S_20	1.85	77
S_4	1.73	65	S_21	1.86	64
S_5	1.75	73	S_22	1.74	70
S_6	1.85	95	S_23	1.75	75
S_7	1.76	65	S_24	1.7	90
S_8	1.74	64	S_25	1.72	72
S_9	1.75	78	S_26	1.82	90
S_10	1.67	62	S_27	1.78	82
S_11	1.92	84	S_28	1.66	54
S_12	1.75	68	S_29	1.77	70
S_13	1.82	82	S_30	1.82	75
S_14	1.87	80	S_31	1.85	75
S_15	1.65	65	S_32	1.72	66
S_16	1.8	86	S_33	1.83	83
S_17	1.94	96			

	Hight [m]	Weight [kg]
medie	1.79	75.70
ab.st.	0.07	9.99
maxim	1.94	96.00
minim	1.65	54.00
CV [%]	4.17	13.19

Table 1 shows the values of anthropometric height and weight for each subject that we have tested. At the group level of students on physical education and sports, the height average of the body is 1.79 m and at the weight average is 75.70 kg. The maximum height was 1.94 m and the minimum

height was 1.65 m. For the body weight indicator, the maximum value was 96 kg and the minimum value was 54 kg. The large difference in these two anthropometric indicators is also influenced by the sport that they have practiced or still practice.

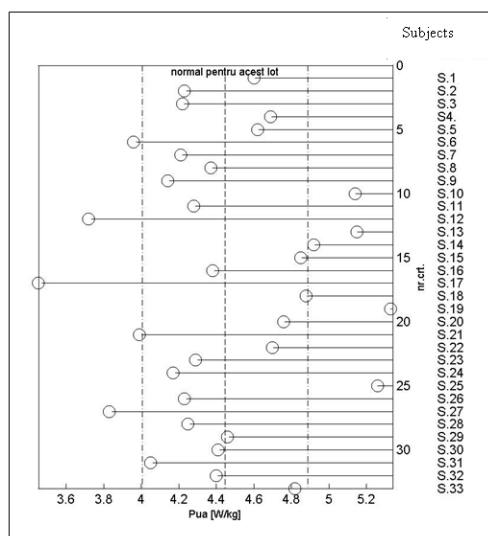


Fig. 1. The average power in jumps on both legs

Figure 1 analyzes the average power in jumps on both legs at the level group of the students, a parameter that evaluates the strength and speed quality at the lower limb, an important quality for most sports.

The range that we consider "normal for this group" is calculated based on the average \pm standard deviation. At the group level, the power average

on both legs is 4.45 W / kg. Students S6, S12, S17, S21 and S27 have the lowest average power on both legs. The best recorded values of this parameter are students: S10, S13, S14, S19 and S25. The rest of the students are in the range group average.

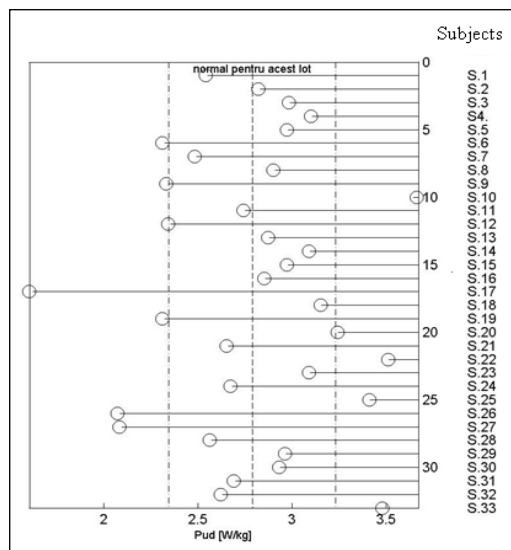


Fig. 2. The average power in jumps on the right leg

Figure 2 highlights the distribution of power in jump on the right leg. The range that we consider "normal for this group" is calculated based on the average \pm standard deviation. At the group level,

the power average that we recorded on the right foot is 2.79 W / kg. Students S6, S17, S19, S26 and S27 have the lowest average power on the right foot. The best recorded values of this parameter are students:

S10, S20, S22, S25 and S33. The rest of the students are in the range group average.

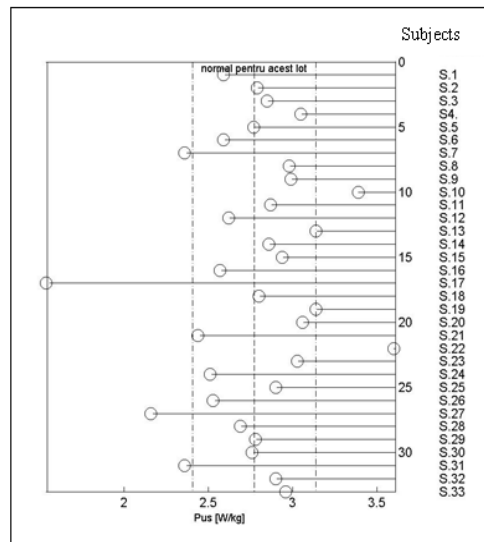


Fig. 3. The average power in jumps on the left leg

Figure 3 highlights the distribution of power on left leg jumps. The range that we consider "normal for this group" is calculated based on the average \pm standard deviation. At the group level, the power average on the left foot is 2.77 W / kg. Students S7, S17, S27 and S31 have the

lowest average power on the left leg. The best recorded values of this parameter are the students: S10, S13, S19 and S22. The rest of the students are in the range group average.

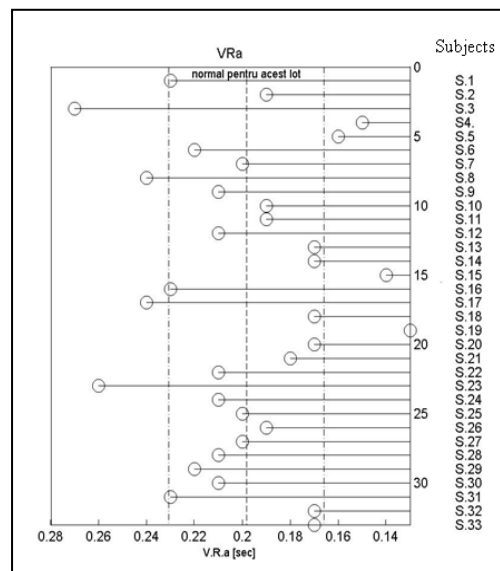


Fig. 4. Average of repetition speed in jumps on both legs

The V.R. - named by Prof. Dr. Miron Georgescu repetition speed (Hillerin) is the average of time contact with the ground in jumping, this parameter brings information on the speed qualities that was shown in this type of movement. The range that we consider "normal for this group" is calculated based on the average \pm standard deviation. Students S3, S8 and S17 have the lowest values of this

parameter on both feet, this is 0.2 s. The best recorded values of this parameter are the students: S4, S5, S15 and S19. The rest of the students are in the range group average.

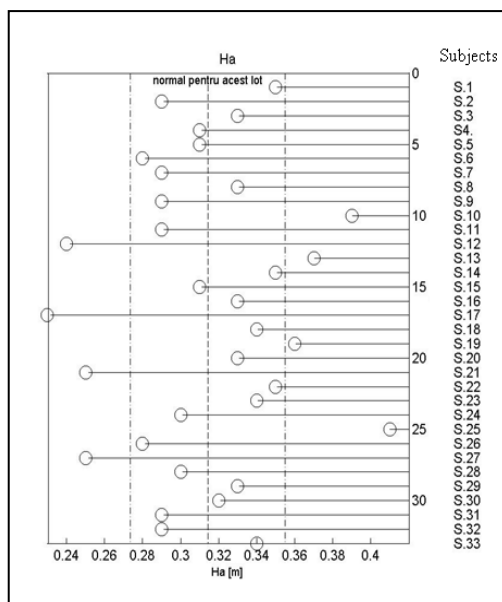


Fig. 5. The jump average on both legs

Figure 5 shows the high jump average on both legs, this is an indicator of expansion. The range that we consider "normal for this group" is calculated based on the average \pm standard deviation. At the group the mean value on both feet is 0.31m. students

S12, S17, S21 and S27 have the lowest values of this parameter. The best recorded values of this parameter are students: S8, S10, S13, S19 and S25. The rest of the students are in the range group average.

Conclusion

It was found that at the level of the group of the students the qualities showed high values for most of them (~ 23 of the students have recorded close values of power parameters, speed repetition and flight height). It has been found that students who have recorded a high average power have also made the most higher jumps, and also those who showed low values of this parameter made the lowest jumps. We also found that from the whole group of students, S17 recorded the weakest values of all measurement parameters and S 19 recorded the highest values of all measured parameters.

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