IMPACT OF SOME MOTOR TESTS IN IMPLEMENTATION OF 60-METER SPRINT IN YOUNG PEOPLE OF 13 YEARS OF AGE

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Abstract

In this research are included 75 boys of 13 years, ± 6 months years of age, primary school students from Gjilan - Kosovo. The aim of the research is factorization of the motor space and to determine the impact of some motor tests in realizing the 60 meters sprint. Applied tests in this research are: long jump (LJ), high jump (HJ), standing triple jump (STRJ), foot taping (FT), side steps (SS), sit and reach test (SRT) and 60 meters sprint running (60SR). Through factor analysis are designed two characteristic roots, in the first column are concentrated variables of long jump (LJ), high jump (HJ), standing triple jump (STRJ), and have labeled this factor as explosive strength and speed. While in the second column are concentrated variables of foot taping (FT), side steps (SS), sit and reach test (SRT), and this factor we have labeled as coordination and agility factor. From the results obtained through regression analysis, it is observed that the greatest impact of motor tests at 60 meters sprint, had tests belonging to explosive force long jump (LJ), high jump (HJ), standing triple jump (STRJ). Processing of the results we have achieved by the methods of factorial analysis and regression analysis through the SPSS statistical package.

Key words: *impact, motor space, factor*

Introduction

Athletics is part of monostructural sports, where the study field is learning or studying movements which form one or more closed structures considering the fixed rules that set up the maximum efficiency of those movements and the planning and programming of the learning and exercising (Dibra, 2007). Its prosperity motor serves the majority of other sports as inexhaustible source in their preparation in improving the quality sport.

Educational work in the field of physical culture shows a really complex work because it has to do with the knowledge and the development of those factors from which in direct way depends health but also working skills of a person (Kovaçi, 2004). The fact that human shows a very complicated and dynamic system where different dimensions and the level of manifestation of them are in independence with the condition of other dimension and the body in general, so nothing cannot be analyzed separately, this makes the whole process more complicated and more complex. The samples that are treated in this paper belong to 13 year old boys, a really sensitive age to investigate because it has many morphological and physiological changes, so it's known about the changes during the period of puberty, this makes a research complex and the results can be unexpected (Aliu, 1997). The factor of

speed is a locomotive skill of human with a high genetic coefficient (90 to 95%) a percentage that is left for a space where Chinese treatment impacts in the factor of speed, the ideal age is 9-12,while the maximum speed of physical skills is achieved in the age of 20-22.

Materials-methods

In this research are included 75 pupils of 13 years, from the primary school "Mulla Idriz Gjilani" from Gjilan. The tests that are applied in this research are: Standing long jump (SLJ); standing high jump (SHJ); Standing 3 steps jump (S3SJ;) leg taping (LTAP); Side steps (SST); Sit and rich test (SRT); and 60 meters running test. From the results of basic statistical parameters are

showed: arithmetic average (X) standard deviation (DS) Skewnes (skew) kurtosis (kurt) minimal result (min) maximal result (max) the factorization of motor space is done with factorial analysis, while the impact of motor variables in the efficiency of 60 meter running is realized with the regressive analysis from the package SPSS.

Results

From results of basic statistical parameters was found that there are normal distribution of results which is based on the appearance of values (Skewnes - Kurtosis), where there is a normal distribution except *Standing long jump (HSLJ)* where Skewnes value of 1.690 indicates that the sample is distributed very high.

Table 1. Basic statistical parameters

Variables	Min	Max	Mean	SD	Skew	Kurt
SLJ	135	185	155.613	12.324	0.406	-0.214
SHJ	23	45	29.747	4.885	1.69	3.199
S3SJ	440	575	502.587	35.424	0.098	-0.804
LTAP	15	25	19.453	2.152	0.183	0.498
SST	9.29	12.7	11.27	0.875	-0.153	-0.64
SRT	34	48	40.773	3.951	0.384	-0.841
R60m	8.97	11.05	10.25	0.527	-0.5	-0.298

Symbols: Standing long jump (SLJ), standing height jump (SHJ), standing 3 steps jump (S3SJ), leg taping (LTAP), side steps (SST), sit and rich test (SRT) and running in 60 meters (R60m).

From the results of factor analysis are projected two characteristic roots, the first component explains 54.653 percentage of variation while the second component explains 74.379 cumulative percentages. In the first column are concentrated variables standing long jump (SLJ) standing high jump (SHJ) standing 3 steps jump (S3SJ) and 60 meters running which we have named the factor of explosive and speed force. While in the second column are shown projections variables side steps (SST) and leg taping (LTAP), this factor we have named coordination and agility factor.

Tab 2. Factorization of motor space

Component	Lambda	% of Variance	Cumulative
1	**3.826**	**54.653**	**54.653**
2	**1.381**	**19.726**	**74.379**
3	.765	10.925	85.304
4	.520	7.427	92.731
5	.284	4.055	96.786
6	.164	2.341	99.127
7	.061	.873	100.000

Tab 3. Main components and communalities (H2) of initial system

Variables	COMPONENT 1	COMPONENT 2	COMMUNALITY H2
SLJ	**.848**	.257	.785
SHJ	**.834**	.362	.827
S3J	**.892**	.001	.795
LTAP	.624	**-.680**	.852
SST	-.646	**.669**	.864
SRT	**.626**	-.004	.392
R60m	**-.646**	-.524	.692

Symbols: Standing long jump (SLJ), standing height jump (SHJ), standing triple jump (S3J), leg taping (LTAP), side steps (SST), sit and rich test (SRT) and running at 60 meters (R60m).

Tab 4. Matrix of parallel projection

Variables	Fac.1	Fac.2
SLJ	**.850**	-.093
SHJ	**.915**	.016
S3J	**.700**	-.363
LTAP	.002	**-.922**
SST	-.026	**.920**
SRT	.489	-.259
R60m	**-.883**	-.251

Tab 5. Matrix of orthogonal projection

Variables	Fac.1	Fac.2
SLJ	**.882**	-.383
SHJ	**.909**	-.296
S3J	**.824**	-.602
LTAP	.316	**-.923**
SST	-.340	**.929**
SRT	.577	-.426
R60m	**-.797**	.050

Symbols: Standing long jump (SLJ), standing height jump (SHJ), standing triple jump (S3J), leg taping (LTAP), side steps (SST), sit and rich test (SRT) and running in 60 meters (R60m)

Tab 6. Regression of variable in the 60 meters running

Variables	B	Std. Error	Beta	t	Sig.
(Constant)	15.287	1.212		12.613	.000
SLJ	-.015	.005	-.340	-2.824	.005
SHJ	-.021	.012	-.156	-1.755	.081
S3J	-.005	.002	-.324	-2.643	.009
LTAP	.021	.026	.070	.835	.405
SST	-.024	.059	-.034	-.412	.681
SRT	.008	.008	.069	.960	.339

R60M   RO = 0.673   DELTA = 0.453 .   Sig. (Q)=0.000

Connectivity of whole motor system variables (variables as predictor) and success in finishing of their motor duty running in the 60 meters (R60M) having in mind the height of coefficient multiple correlation, respectively, the multiple correlation coefficient has value RO = 0. 673, which explains common variability between predictor system and variable criteria about 45% (Delta = 0. 453). Such connectivity is important at the level Q = 0.000. The balance in explaining the overall variability of test running in the 60 meters (R60M) can be described other characteristics and abilities of students, such as the other motor variables, anthropometric characteristics, conative features, cognitive ability, motivation, functional skills and other.

By analyzing the impact of specific motor variables can be concluded that greatest impact and most importance have variable standing long jump (SLJ) coefficient (Beta = - .340) which is important at the level of SIG = 0.005. Results similar to those obtained in this research are also evident with: Hucinski et al. (2007), Milton et al. (2008), Myrtaj, (2007), Halilaj et al. (2013).

The impact of these two motor tests (predictor), standing high jump (SHJ) in the limits of statistical significance and triple jump (S3J) belonging to the explosive force, i.e., the mechanism for adjusting the intensity of excitement in the realization of the 60 meters run (R60M) is important. Such influence can be explained by the special role and significant that has explosive strength, respectively the mechanism for the regulation of muscle tone on affordability of inertia force and also the speed execution on steps frequency during 60 meters distance.

Conclusion

From the data of parameters and statistical in locomotive variables it's seen as a normal distribution of results, except the test of standing long jump (SLJ) where the average of Skewnes 1.690 tells a really high distribution. From the results of factorial analyzes are projected two characteristic bases, the first component explains 54.653 percentage of variation while the second component explains 74.379 cumulative percentage. In the first column are concentrated variables from standing long jump (SLJ) standing high jump (SHJ)

standing 3 steps jump (S3SJ) and 60 meters running which we have named the factor of explosive and speed force. While in the second column are shown projection variables of side steps (SST) and leg taping (LTAP) this factor we have named as coordination and agility factor. From the data of regressive analyzes the most impacted in motor tests in 60 meters run had the test that belongs to explosive force, respectively standing high jump (SHJ) standing 3 steps jump (S3SJ) while a little bit less standing high jump (SHJ).

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