THE IMPACT OF BASIC-MOTOR SKILLS IN SPEEDY LONG JUMP AND 60 METERS LOW START

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Abstract

The development of any form of movement and even the simplest one cannot be accomplished without the proper level of motor skills. From this point of view, also the motor skills cannot be displayed without the presence of movement, according to the space-time characteristics as well as its respective intent.

The sample in this paper was selected by the regular students of the high school "Marin Barleti" from Gjilan, for the realization of this research were included 75 students, aged 16, who through 7 basic motor variables and 2 criterion variables give us a realistic picture by confirming the purpose and the problem of this research. Based on the purpose and importance of this paper, which is the determination of the magnitude of the impact of basic motor variables (such as a prediction system) in this case in two criterion variables pertaining to the three discipline competition of school (60 meters running and speedy long jump) in this case was applied regression analysis.

From the results achieved in the motor-basic space in two criterion variables have shown valid results: MKGJVR (sig.000), and MVR60M (sig.000), as well as for the completion of this paper we can emphasize that with the results obtained during the conduct of this paper has been achieved its main goal, the results achieved give us a realistic insight into the students' knowledge of the subject of physical education and sport, and in particular in athletics, which justifies the data and results of previous studies that analyzed similar issues and problems.

Keywords: motor abilities, prediction, criterion skills, regression analysis and physical education.

INTRODUCTION

Looking at the structure in some athletic disciplines, many authors have found that success in Athletics depends on several factors, among them the most important are motor skills, cognitive and anthropometric skills which are manifested in all sports, and in particular in the educational process.

The development of any form of movement and even the simplest one cannot be accomplished without the proper level of motor skills. From this point of view, motor skills cannot be displayed without the presence of movement, according to the space-time characteristics as well as its respective intent. These skills provide robust, fast, durable, accurate, and coordinated power in the implementation of various motor tasks (Pavlović, 2006). The structure of the athletics multidiscipline is quite complex and it is a very complicated structure by the nature of the execution and the achievement of important results. Athletics multidiscipline starts from three school disciplines up to ten Olympics discipline that must include all the disciplines like as: running, jumping and throws, and here we have elaborated the impact of motor skills in a speedy long jump with and a 60m run. Such a study was carried out in order to determine the impact of basic and specific motor variables on the results of 60m sprint (Schneider, 1994).

Success in athletics depends from the length of the step and its density in the time units. In this case we are dealing with a speedy long jump which consists of 4 momentum stages, final striving, flight and landing.

This paper deals with 75 male students aged 16, who are regular students and have 2 hours of Physical Education according to curriculum at the "Marin Barleti" high school in Gjilan. For maintaining of physical skills, more precisely has determined S.Izrael (1978), where sports medicine, physical ability considers as a quantitative and qualitative opportunity for carrying out movement activities.

METHODS

Tested samples

In this research were included 75 students (male) of the high school "Marin Barleti" in Gjilan who were enrolled in the school year 2015 - 2016, where the students for the first time were subjected to such testing, they did not have proper knowledge for such research. The health of the tested students has been good.

The group of basic-motor variables hypotheticalycovers the purpose and the problem of the research. In this research are included 7 basic motor variables, which are as follows:

Long jump from the place - (MKGJV), High Jump from the place - (MKLARV), Throwing a medical ball - (MHMEDC), running 20 m high start - (MVR20M), triple jump from the place - (MTRHVE), jumping with the right foot from the place - (MKDC), jumping with the left foot from the place - (MKKMV)

The group of criterion variables in this paper is presented through two variables:

- Long Jump - (MKGJVR),
- 60m Low Start - (MVR60M)

RESULTS AND DISCUSSIONS

Basic Statistical Parameters of Male Students

In this research are applied seven motor variable and two variables criteria, a set of variables that are

thought to be important parameters for this paper. In table no.1 are presented the results of the basic statistical parameters of male students. In this table are presented the basic static results: number of individuals (n) minimum score (min), maximum (max.), arithmetic average (mean), standard deviation (std. dev), asymmetric measures (skew and kurt). Based on the results obtained in the table no. 1 between the minimum and maximum results reflected by standard deviation, some of the values are presented as high as in the MTRH variable with min. values 520.45, max. 715.25. the arithmetic average, 630.36 and the highest standard deviation 42.31, then the MHMEDC variable with min. 390.38, max. 702.98. arithmetic average, 569.07 and high value standard deviation standard 69.01, MKGJVR variable with min. 260.45, max. 450.26. arithmetic mean, 366.04 and high value standard deviation standard 38.79. Given that we are dealing with a non-selected group of students we can conclude that the high values of standard deviation in these variables are reflected as a result of a heterogeneous group.

Table 1. Basic statistical parameters of basic motor measurement in predictor system and criterion system of students

Variables	N	Min.	Max.	Mean	Std. Dev.	Skew.	Kurt.
MKVGJ	75	155.05	235.20	200.4418	18.3412	-.339	-.599
MTRHV	75	520.45	715.25	630.3688	**42.3178**	-.265	-.397
MKKVD	75	130.50	210.35	171.8045	16.2720	-.386	.573
MKKVM	75	130.32	211.30	174.7768	15.1229	-.365	.913
MHMEDC	75	390.38	702.98	569.0727	**69.0153**	.052	-.390
MKLARV	75	35.00	63.02	45.8567	5.5450	.533	.740
MVR20M	75	3.12	4.28	3.6924	.2703	-.552	-.090
MKGJVR	75	260.45	450.26	366.0437	**38.7917**	-.327	.164
MVR60M	75	7.94	11.00	9.3072	.6413	.255	-.066

Based on the purpose of this paper, regression analysis has been applied to show what impacts have criterion variables among students in the educational process involved in the paper. We can also anticipate in what extent criterion variables can be influenced to the results in relation to the predictor system of the basic motor variables.

Consequently were presented two first tables with the main elements of the regression analysis of male student measurements as follows: Multiple correlations (R) which shows the value of the correlation between all predictive variables and that criterion. Coefficient of determination (Adjusted R square), which shows the percentage of common variance between predictor variables and that criterion. Validation (Sig F change), which shows the statistical validity at the level of reliability .01.

Also, for the fulfilment and detailed understanding of the relationshis and the determination of the partial influence of the predictor variables are presented also the values of the partial coefficient BETA and the partial correlation **Part**, which represents the partial correlation between the predictor variables and the criterion variables upon elimination of the impact of all other variables.

Table 2. Regression analysis of the variable (MKGJVR)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.651	.423	.363	30.9626	.423	7.022	7	67	**.000**

a Predictors: (Constant), MVR20M, MHMEDC, MKVD, MKLARV, MTRHV, MKVGJ, MKVM

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	47123.129	7	6731.876	7.022	**.000**
Residual	64231.715	67	958.682		
Total	111354.844	74			

a Predictors: (Constant), MVR20M, MHMEDC, MKVD, MKLARV, MTRHV, MKVGJ, MKVM

b Dependent Variable: MKGJVR
Coefficients

variables	B	Std. Error	Beta	t	Sig.
(Constant)	109.094	111.591		.978	.332
MKVGJ	-.003	.286	-.018	-.136	.892
MTRHV	.570	.116	.622	4.898	**.000**
MKVD	-.005	.304	-.025	-.192	.848
MKVM	.257	.354	.100	.727	.470
MHMEDC	-.004	.062	-.078	-.705	.483
MKLARV	-.774	.816	-.111	-.949	.346
MVR20M	-18.705	16.484	-.130	-1.135	.261

a Dependent Variable: MKGJVR

In table no. 2 are presented values, which as criterion is taken the MKGJVR variable of the dimensions of the basic motor of the predictor system and criterion variables. By sig. .000 based on the multiple correlation coefficient (Ro = .651) can be explained that 42.3% of the common variability of the predictor system and the variable criteria. The remaining of 57.7% is under the influence of unknown factors and not included in this paper. Based on the obtained values, it has been confirmed that the predictor system variable MTRHV has a statistically significant impact on the criterion variable MKGVV with value **(Sig .000).**

Table 3. Regression analysis of the variable MVR60M

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.672	.452	.395	.4989	.452	7.894	7	67	**.000**

a Predictors: (Constant), MVR20M, MHMEDC, MKVD, MKLARV, MTRHV, MKVGJ, MKVM

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	13.757	7	1.965	7.894	**.000**
Residual	16.680	67	.249		
Total	30.436	74			

a Predictors: (Constant), MVR20M, MHMEDC, MKVD, MKLARV, MTRHV, MKVGJ, MKVM

b Dependent Variable: MVR60M

Coefficients

Variables	B	Std. Error	Beta	t	Sig.
(Constant)	7.499	1.798		4.170	.000
MKVGJ	.005	.005	.162	1.226	.225
MTRHV	-.005	.002	-.375	-3.026	**.004**
MKKVD	.003	.005	.084	.678	.500
MKKVM	-.003	.006	-.075	-.556	.580
MHMEDC	-.006	.001	-.074	-.687	.494
MKLARV	.003	.013	.031	.270	.788
MVR20M	1.209	.266	.510	4.552	**.000**

a Dependent Variable: MVR60M

In table no. 3 are presented values, where as a criterion is taken variable MVR60M of the motor dimensions of the three athletic disciplines of the predictive motor system of the criterion variables. By sign.

.000 based on the multiple correlation coefficient (Ro = .672) can be explained by 45.2% of the common variability of the prediction system and the variables criterion. The remaining 54.8% is under the influence of unknown factors and not included in this paper. Based on the obtained values it is proved that the MVR60M variable of the prediction system has a statistically significant impact on the criterion variable MTRVV with value **(Sig. .004).** Also valuable statistical impact has given variable MVR20M with value **(sig.000).**

CONCLUSION

The research aimed to determine the impact of the basic motor skills (of the explosive force of the lower and upper extremities, etc.), at the 16 year old students, in the performance of the results in two athletic disciplines (60 meters running and speedy long jump). In total, 9 basic and situational motor skills variables were applied.

Based on the results and values of the regression analysis, it is noted an important influence on the result of the speedy long jump with (Ro = .651) for the significance level of p <0.001 and in the running result of 60 m with (Ro = .672) for the level of significance of p <0.001 and p <0.005. The obtained results confirm previous similar studies which addressed the problem of motor skills impact on results in some athletic disciplines.

REFERENCES

1. Šnajder, V. (1994). *Utjecaj specifičnih i bazičnih motoričkih varijabli na rezultate sprinta kod učenica [Influence of specific and basic motor variables of the results of the student sprint.* In Croatian.]. Kineziologija, 26.
2. Dibra, F. (1996). *Leksione pasuniversitare për zhvillimin e forcës në Atletikë* A.E.F.S. Tiranë.
3. Rashiti, N. (2001). *Prediktivne vrednost baterije specifićni testova na rezultat trčanja učenika*. Magistarski teza Novi Sad. Fakultet fizičke kulture i vaspitanja.
4. Dimitros, H. (2003). *Uticaj eksployivne snage na uspešnost skoka u vis kod pionira*. Magistarski rad, Novi Sad.
5. Mihajlović, I. (2005). *Kriterijumi za procenu motoričkih sposobnosti i usfojenosti teknike atletski disciplina učenika.* Novi Sad .
6. Pavlović, R. (2006). *Snaga kao faktor rezultatske uspješnosti trčanja 800 metara [Power as a factor in success of results in running 800 meters.* Niš, Faculty of Physical Education.
7. Sylejmani, B. (2014). *Ndikimi i Dimensioneve Antropometrike dhe motorike në tregarshin shkollor të moshës 16 vjeçare:* Punim magjistrature , Universiteti i Prishtinës, Fakulteti i Kultures Fizike dhe Sportit. Prishtinë.

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