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Presentation of valid correlations in some morphological variables and basic and specific motor skills in young people aged 13-14 years engaged in basketball

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Abstract

Study-research deals with younger students of both sexes aged 13-14, who, besides attending classes of physical education and sports, also practice in basketball schools in the city of Pristina. The experiment contains a total of 7 morphological variables, while four tests of basic motion skills and seven variables are from specific motion skills. In this study, the verification and analysis of the correlation of morphological characteristics and basic and situational motor skills in both groups of both sexes (boys and girls) were treated. Based on the results obtained between several variables, valid correlations with high coefficients are presented, whereas among the variables are presented correlations with optimal values. The experimentation in question includes the number of 80 entities of both sexes; the group of 40 boys and the other group consisting of 40 girls who have undergone the tests for this study-experiment.

Key words: Basketball; Entities; morphological; motor; skills.

1. Introduction

Basketball is both attractive and complex, requiring specific preparation to achieve contemporary-level results. Our young people are very interested in getting into the basketball game so we have to offer better infrastructure conditions and professionalism with selected experts who are dedicated to basketball. With basketball, our youth, both sexes get a lot of benefit in terms of fair physical, then conditional, technical-tactical, morally-volatile, psycho-physical development.

Nowadays, contemporary basketball requires high complexity preparations in order to achieve satisfactory results in the future and to keep and improve the pace of the domestic and international competitions.

In a study of the correlation between morphological characteristics and explosive force among basket cadets, it has proven the existence of two important canonical factors that have shown the significant positive correlation between the explored spaces. Based on the obtained results, the author concluded that the efficient execution of the duties in basketball, given the great participation of explosive or explosive activities in the game, largely depends on the specific morphological structure of basketball players with a dominant role in the muscular mass of the body. (Matkovic,1998)

In a separate study (Šabotić & Drobnjak,2008) have verified the correlation of predictive variables of basic-motor skills with criterion variables among young people aged 15 years. It has achieved optimum connectivity values, based on the performance of younger age basketball players.

Similar works in the basketball field have been made by (Dezhman,1997), who has dealt with the morphological system and motor status for new basketball players, which has gained valuable linkage in this area. This result now serves as important information for the effectiveness of the basketball game. The author in question is well-known for work in the field of basketball, battling works in the region and in international magazines.

(Salihu.H,2017) conducted a study of some morphological characteristics and basic motor skills and specific to young people of both sexes aged 12 years. The sample group included 30 boys and 30 girls group, a total of 60 students, who in addition to regular hours of physical education, leisure them after learning process, exercised near the clubs within the city.

Based on the results obtained in this study, we conclude that there is a significant difference between the group of boys and group-age girls in question, is because the phase of puberty starts earlier in girls therefore, the values obtained are in good group of girls.
To succeed, to the age group in question specifically in the sport of basketball, we need to offer better conditions in infrastructure and real professionalism in training methods.

In a research for differences between basketball players, who play mostly 1 and 2-guard, 3-ahead, and 4 and 5-nation national teams in the Olympic Basketball Tournament in Atlanta in 1996. The differences were introduced based on body height, 13 standardized performance indicators (game-related efficiency, i.e. official match statistics). The results of the discriminatory analysis suggest that many factors influence the achievement of the most advanced results regarding the level of international competitions. (Trninic S, Dizdar D, Fressl ZJ.,1999)

1.1 The purpose of experimentation-study

In this study, the presentation of valid links, in some morphological and basic variable and specific motives will be addressed in young people of both sexes aged 13-14 years. In this paper, a group of 7 morphological variables and 11 basic and specific motion tests were treated.

The main purpose will be to analyze and validate valid linkages, some morphological variables and basic and specific motor tests between the group of boys and the group of girls of the same age.

1.2 Sample of entities

In this paper, young people of both sexes aged 13-14 years are treated, who, in addition to regular classes of physical education and sports, attend regular basketball training sessions at clubs in the city of Pristina. The sample of the testers included a total of 80 entities, a group of 40 girls and a group of 40 boys who were morphological variables tested in the morning hours, while basic and specific skill tests were tested during basketball training sessions. Testing-measurements were carried out during October 2017.

1.3 The sample of variables

1.3.1Morphological variables:

1. Body height- BH
2. Body weight - BW
3. Arm length- AL
4. Leg length - LL
5. Palm length- PL
6. Palm width- PW
7. Foot length- FL

1.3.2 Basic motor variables

1. Running fast 20m - RF20m
2. Jumping from place in height - JFPH
3. Jumping from remote place - JFRP
4. Throwing the medicinal filled ball - TMFB

1.3.3 Motor situational variables

1. Free throw with the left hand - FTLH
2. Free throw with the right hand - FTRH3m
3. Side throw with the help of the table - STHT3m
4. Side throw with the help of the table - GJTABM3m
5. Throw for 3 points - TF3points
6. Dribble with hurdles - DWH
7. Round trip dribble – RTD

2. Methods of processing the results

Based on the purpose and the hypotheses set forth, methods of processing the results will be applied which will enable the provision of sufficient information for the realization of this study-experimentation.

For the verification of the correlations between the two groups acquired in the morphological and basic variables of the specifics, the correlation analysis and the correlations between the two groups of the two sexes concerned will be calculated.

3. Discussion

3.1 Interpretation of the results and their discussion

Correlations in the manifest morphological space

Table 1. Correlations in the morphological space group of girls.

Variables	BW	BH	AL	LL	PL	PW	FL
BW	1						
BH	,364*	1					
AL	,232	,665**	1				
LL	,087	,655**	,577**	1			
PL	,300	,652**	,658**	,711**	1		
PW	,355*	,476**	,257	,489**	,513**	1	
FL	,215	,722**	,461**	,544**	,688**	,507**	1

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

As can be seen from the presented results, we can say that in the correlation table of anthropometric variables are obtained high scores, except for the foot length variable which does not correlate with the weight, and the length of the toe with the length of the toe, give a non-significant correlation in relation to other variables that showed a high correlation, with a coefficient of up to: 711 **

Table 2. Correlations between basic motor variables and specific girls group.

Variables	RF20m	JFPH	JFRP	TMFB	FTLH	FTRH3m	STHT3m	GABM3m	TF3poin	DWH	RTD
RF20m	1										
JFPH	-,237	1									
JFRP	-,347*	,309	1								
TMFB	,105	-,166	-,238	1							
FTLH	,079	,033	,231	-,158	1						
FTRH3m	-,145	,015	-,261	,032	-,077	1					
STHT3m	,060	,051	-,155	-,222	,033	,413**	1				
GABM3m	,009	-,066	-,059	,027	,109	-,109	,577**	1			
TF3poin	-,067	,006	-,137	,196	-,195	,032	,275	,486**	1		
DWH	-,019	,154	-,274	,146	-,125	,050	-,094	-,020	,091	1	
RTD	-,033	,145	-,110	,136	-,035	,050	-,085	,066	,319*	,742**	1

Based on the results presented, we can say that no high scores were obtained, except the drift divergence variable, which has a correlation with other accuracy-precision tests, a three point puncture test, and dribbling with obstacles Also, unrelated correlation in relation to other variables has also shown the downward jump variable with the high jump variable and the dropping of the drug with a correlation coefficient up to 742 **

Table 3. Correlations in the anthropometric space group of boys.

Variables	BW	BH	AL	LL	PL	PW	FL
BW	1						
BH	,731**	1					
AL	,313*	,535**	1				
LL	,507**	,676**	,682**	1			
PL	,503**	,686**	,500**	,623**	1		
PW	,542**	,483**	,411**	,548**	,691**	1	
FL	,568**	,634**	,530**	,711**	,650**	,583**	1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Based on the results presented, we can say that high and valid results are obtained which show a high correlation between them, their results have a high coefficient of .731 **.

Table 4. Correlations between basic motor variables and specific boys group.

Variables	RF20m	JFPH	JFRP	TMFB	FTLH	FTRH3m	STHT3m	GABM3m	TF3poin	DWH	RTD
RF20m	1										
JFPH	-,406**	1									
JFRP	-,427**	,509**	1								
TMFB	-,227	,072	,167	1							
FTLH	-,341*	,314*	,123	,046	1						
FTRH3m	-,196	,314*	-,134	-,118	,519**	1					
STHT3m	,177	,046	-,297	-,155	,290	,379*	1				
GABM3m	,106	,158	-,035	,081	,275	,155	,019	1			
TF3point	-,080	,032	,083	,102	,188	,076	,133	,076	1		
DWH	,559**	-,265	-,157	,045	-,145	-,232	-,254	,017	,043	1	
RTD	,381*	,012	,049	,161	-,346*	-,354*	-,485**	,056	-,119	,478**	1

As can be seen from the presented results, we can say that results of optimal correlations are obtained. The highlighted correlation has given the explosive force test almost all other variables of basic and situational motor variables in the value of: .106 to .559, as well as dribbling drift variables, has shown a significant correlation in relation to the variables of with a correlation coefficient up to: 478 ** as well as the high jump variable, showed correlations with almost all other variables in the value of: .158 to .509.

Table 5. Correlation between morphological variables and basic motor specific in the group of girls.

Variables	BW	BH	AL	LL	PL	PW	FL
RF20m	,057	-,159	-,149	-,336*	-,247	-,131	-,083
JFPH	,085	-,119	,006	-,114	-,131	-,007	-,084
JFRP	-,161	-,055	,103	-,090	,079	-,094	-,079
TMFB	,324*	,318*	,222	,183	,130	,262	,149
FTLH	-,371*	-,161	-,170	-,190	-,325*	-,305	-,189
FTRH3m	,392*	,141	,064	,144	,232	,075	,381*
STHT3m	,123	-,061	-,003	,044	-,003	-,201	,063
GJTABM3m	-,030	,176	,070	,136	,004	-,042	,040
TF3points	,016	,455**	,179	,401*	,309	,282	,338*
DWH	,173	,325*	,108	,301	,220	,397*	,325*
RTD	-,123	,247	,052	,285	,198	,345*	,358*

*. Correlation is significant at the 0.05 level (2-tailed).

Analyzing the magnitude of cross-correlations, the gained values are of an optimal level of probability, which are distinguished by groupings of the degree of cross-correlation.

In the motor space of higher crocodile values has given the accuracy-accuracy accuracy of the shot for 3 points, which shows that there is a high correlation with the anthropometric variables such as. The height of the body, the length of the foot, the length of the hand, the width of the palm of the foot and the foot of the foot with values from: .309 to .455 **, while from the anthropometric space high crocodile values have given some of the longitudinal variables .

Table 6. Cross correlations between morphological and motor variables basic and specific in the boys' group.

Variables	BW	BH	AL	LL	PL	PW	FL
RF20m	,281	,135	,207	,103	,097	,072	,042
JFPH	,263	,502**	,145	,269	,142	,076	,133
JFRP	,109	,312*	,234	,369*	,192	,230	,261
TMFB	,288	,148	,286	,245	,156	,292	,456**
FTLH	-,017	,006	-,074	,038	-,039	-,210	-,118
FTRH3m	,164	,071	-,170	,045	-,046	,002	-,051
STHT3m	,177	,107	,126	,209	,243	,098	-,006
GJTABM3m	,005	-,006	,196	-,030	-,054	-,060	-,205
TF3points	,011	-,097	,192	-,136	-,146	-,004	-,279
DWH	,114	,014	,134	-,056	-,119	-,035	-,017
RTD	,152	,162	,054	-,070	-,116	-,059	,097

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

In the motor space, the crocodile median values have provided two tests of the basic riding motor at a distance with body height, then the arm length, leg length, palm width, and leg length, while dropping the drug test shows correlation high with anthropometric variables such as Body weight, leg length, length of hand, palm width and ankle length, with values of: .245 to .456 **.

4. Conclusion

Based on the results discussed in this study-experiment, it was proved the availability of valid links between the two sexes, in some morphological and basic variable specifics in the students aged 13-14 years. The results are elaborated by 7 anthropometric variables and 11 basic and situational variable variables, correlations and cross-correlations between morphological and motor variables for both sexes, where values between several variables have been high coefficients, while some valid variables with optimum coefficient.

The group of students of this age group is able to withstand the greatest burdens, thus affecting the growth of motor skills at the highest level.

Based on the achieved results, we have tried to elaborate some of our predictions with the correlation range and the cross-correlation that resulted with optimal validity.

With this experiment, the purpose of this study was achieved, since we have proved all the predictions regarding the realization of tests by students of both sexes. The results of this study will remain in function of selection and selection of young people who, besides the regular Physical Education and Sports classes, want to attend basketball training sessions, which shows a good signal for our basketball future.

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