

The structure of morphological characteristics and basic motor skills of the typical game of basketball junior

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(Accepted 15 October 2016)

Abstract:

This research has explored the factor of structure for some morphological variables and motor skills of the junior basketball league. The experiment was done on a sample of 54 young basketball players aged 17 years. Latent factors were extracted which is used factorial analysis and have won two latent factors whose morphological has been appointed: general factor for growth and development, as well as factor transversal body. While factoring basic motor skills have won four of situational factors which are labeled as: factor of explosive strength and speed on lower limbs, factor flexibility and accuracy (precision) situational and factor precision shooting. Conclusions reached in this paper that the factorial structure defined space important factors in the morphological characteristics and basic motor tests and the typical game of basketball to junior players.

Keywords: morphology, motor skills, game of basketball, factor analysis,

Introduction:

The basketball game is very dynamic and popular game, which is very attractive to young people (Hofman, J.R., et al...2000). The game of basketball is a complex activity and task requirements which are specific skills selected for each player, depending on his position in the team, which performs certain tasks in the game of basketball (Trninić, S., et al...2010). Morphological performance and motor skills are very important components in the development of the game of basketball. Therefore basketball players required by professional goal setting work structures important for the development of anthropological status. (Trninić, S. 1996; Vasiljev, R. et al...2003; Trninić, S. et al...2010; Trninić M. et al...2012; Kryeziu, A. 2013; Kocić, J. et al...2013; Aruković, Z. 2013, Kiki, A. et al...2015). According factorial procedure, the latent space such as explosive factor downstream of the extremities, the flexibility factor, the factor of precision (accuracy) and the factor of

precision (accuracy) of the situation of the game. Based on data that are highlighted in this paper, the research concluded that values experiment are a special importance to working with the junior league players (Salihu, H., Asllani, I., Kryeziu, A. R., Elshani, Q. 2013). In their paper in junior basketball players in basic motor tests of situational typical game of basketball, in which they were extracted the following factors: Explosive power factor and agility, factor accuracy (precision) typical game of basketball, Recurring power factor (repetitive) (Kryeziu A. 2016).

The purpose of the paper-experiment:

The purpose of the paper-experiment is the structure of morphological characteristics and basic motor of typical situational game of basketball junior.

Research methods:

The sample (model) of entities

In the survey included 54 junior basketball league age 17 years. The players are members of two basketball schools, Drita from Gjilan and Sigal Pristina from Pristina, they are involved in basketball training program, approximately 2 years, exercised 3 times a week as well as 1 hour and 15 minutes per day.

The sample of variables:

In this paper are applied thirteen (13) variables, five are from morphological space, while seven are in basic motor and space situational.

The variables:

Morphological space:

BOWE - Body weight; BOHE - Body height; ARCI - Arm circumference; CHCI - chest circumference; THCI - thigh circumference.

Typical tests and basic situational game of basketball:

JPL - The jump from place to length; SAR₁- Jump from place to height; SAR₂ - The high jump with the approach of one foot; R40m - Running(sprint) 40 meters; DFB - Deep Flexion before; SHBCD - Shooting the ball in cart in the same direction; SHBCC45⁰ - Shooting the ball in the corner cart 45⁰. Measuring instruments are applied by: Trninić, S.1996; Jeličić, M., Sekulić, D., &Marinović, M. 2002. Data were processed with SPSS statistical software programine package version 16.0 for Windows, research latent structure of space that will be explored through factor analysis.

Results: Issues on which to resolve through factorial analysis which aims to the large number of variables related manifestos between them reduce them to a small number of independent latent variables, which may explain the relationship them between manifest variables analyzed.

Table no. 1 The main characteristic roots and parts explained common variance in morphological space

Component	Total	% of Variance	Cumulative %
1	2.267	45.336	45.336
2	1.136	22.722	68.058
3	.707	14.146	82.204
4	.542	10.832	93.036
5	.348	6.964	100.000

Decrease main morphological characteristic of latent variables in table. 1 are shown the characteristic roots (Lambada) and partial contribution (%) and their cumulatively explaining the variability in general. According to method Hottelingutand Criterion CG (Gutman-Kaiser), two main components are extracted, which explain 68.05% of variance genera. The first characteristic root of the variance explained 45.33% of the overall system, the second cure the root of the variance explained 22.72% of genera.

Table no. 2 Matrix components and cummunalities

	1	2
BOWE	.690	.213
BOHE	.788	-.152
ARCI	.806	.263
CHCI	.720	-.354
THCI	.209	.935

In table no. 2 projections have realized significant body weight, body height, arm circumference and chest circumference of the coefficient of .690 to .806. In the second component, thigh circumference is defined with high coefficient of .935.

Table no. 3 Matrix of parallel projections

	1	2
BOWE	.304	-.134
BOHE	.348	.188
ARCI	.356	.231
CHCI	.318	-.311
THCI	-.010	.823

Oblim first factor is defined by body weight, body height, arm circumference and chest circumference coefficient of .304 to .356. On the basis of such projections first factor can be interpreted as a general **general factor for growth and development**. In the second factor is designed thigh circumference with high coefficient of .823. The second factor can be defined as **transverse body factor**.

Table no. 4 Matrix of correlation between morphological factors

Component	1	2
1	1.00	.000
2	0	1.000

Under inter correlation matrix of latent factors (tab. 4) the first factor to the second factor does not have significant correlations (.000). Based on this we can conclude that the factors are independent of each other.

Table no. 5 The main characteristic roots of basic motor and situational variables

Component	Total	% of Variance	Cumulative %
1	2.655	37.935	37.935
2	1.256	17.945	55.880
3	1.101	15.726	71.606
4	.881	12.587	84.192
5	.582	8.314	92.506
6	.481	6.868	99.374
7	4.382	.626	100.000

In table no. 5 presents the characteristic roots (Lambada), as well as partial contribution (%) and their cumulatively explaining the variability in general. According to Criterion method Hottelingut and CG (Gutman-Kaiser), are extracted three main components, which explain 71.60% of variance genera. The first characteristic root explains 37.93% of the variance of the overall system, the second root explains 17.94%, while the third root explains 15.73% of the total variance.

Table no. 6 Matix components and cummunalities

	1	2	3
JPL	.690	.361	-.578
SAR₁	.907	-.248	.179
SAR₂	.896	-.251	.185
R 40 m	-.704	-.250	.267
BFB	.239	.725	-.478
SHBCD	.758	.608	.313
SHBCC45⁰	-.457	.324	.798

Is presented in table 6 main components matrix with three factors and their cummunalities. The first major component projections have realized significant tests the jump from place to length, jump from place to height, the high jump with the approach of one foot, running(sprint) 40 meters (.690 to .907). Jumping from place to test height has realized higher projection .907.

The second component is defined by the test deep flexion before and shooting the ball in cart in the same direction coefficient of .608 to .725. The third component is defined by the test shooting the ball in the corner cart 45⁰ optimal value of .798.

Table no. 7 Matrix of parallel projections

	1	2	3
JPL	.260	.208	-.014
SAR₁	.341	-.198	.163
SAR₂	.337	-.200	.168
R 40 m	-.265	-.018	.242
BFB	.090	.577	-.434
SHBCD	.014	.484	.284
SHBCC45⁰	-.013	.258	.725

In tables 7 pralele projection matrix, which contains parallel projections of motor tests in oblimim factors. With ordinary inspection of this matrix we see that higher projections in the first factor realized the jump from place to length, jump from place to height, the high jump with the approach of one foot, running (sprint) 40 meters coefficient of -.265. till .337. So based on these projections, the first factor can be defined as **factor of explosive strength and speed alternative lower limbs**. In the second factor, higher projections are realized: deep flexion before and shooting the ball in cart in the same direction value of .484 till .577. Based on projections of tests designed the second factor can be interpreted as **factor flexibility and accuracy (precision) situational**. In the third factor has realized higher projections test shooting the ball in the corner cart 450. The third factor can be defined as **a factor of precision shooting**.

Table no. 8 Matrix of correlation between motor factors

Component	1	2	3
1	1.000	.000	.000
2		1.000	.000
3			1.000

On the face of matrix inter correlation oblim motor factors (table no. 8) shows that there is no significant correlation between them that namely factors that are independent of each other.

Discussion and conclusion

Based on the goals outlined in this paper can conclude that latent factors were extracted, which is used factorial analysis and have won two latent morphological factors who was appointed as: *General factor for growth and development; Factor transverse body*. While factoring the basic motor tests have won three of situational factors which are labeled as: *Factor of explosive strength and speed alternative lower limbs; Factor flexibility and accuracy (precision) situational; Factor of precision shooting*. Conclusions reached in this paper that the factorial structure defined space important factors in the morphological characteristics and basic motor tests and the typical game of basketball to junior players.

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