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RELATION BETWEEN LATENT SPECIFIC MOTOR ABILITIES AND SITUATION MOTOR SKILLS WITH VOLLEYBALL PLAYERS AGED FROM 16 TO 17

Introduction

The game of volleyball with its dynamic character is present in the world of the sport with permanent development and growing popularity and fans. Volleyball is part of a pollystructural complex sports activities. It is performed on a ground of a relatively small size (18 x 9 meters) and is a kind of game that requires of players a high level of advanced motoric abilities (speed, strength, endurance, a fast rate of visual reaction, explosivity), as well as specific motoric skills (precision etc.).

Methods

Scientific conclusion as well as the growing number of conducted researches in the very game, have a real contribution to its modern development and level of popularity.

Situation-motoric skills make a significant dimension in the structure of volleyball game.

The subject of the research is specific-motoric abilities and situation-motoric skills of 52 volleyball players aged from 16 to 17.

The basic goal of the research is to establish the effect of specific-motoric abilities on situation-motoric skills of volleyball players in latent space. In order to assess the specific-motoric abilities 9 tests are used, and to assess the situation-motoric skills 3 precision tests are used.

The variables of specific motoric abilities are:

1. Hand tapping (HT);
2. Double hand tapping (DHT);
3. Leg tapping on the wall (LTW);
4. 20-meter sprint (S20M);
5. Japan – test (JT);
6. “T” – test (TT);
7. Sitting down on a ball (SDB);
8. 9-3-6-3-9 meter sprint (S936); and
9. 9-meter backward sprint (S9B)

The variables of situation-motoric skills are:

1. Passes the ball with fingers to zone 4 (PBZ4);
2. Passes the ball with fingers to zone 2 (PBZ2);
3. Service precision (SP).

Results & Discussion

The results obtained from the 12 applied tests are worked out through the basic statistic parameters. Through component factor analysis 3 latent specific-motoric dimensions are isolated as well as one situation-motoric dimension.

By regressive analysis there is established a low but statistically significant relation between the criterion and predictor latent dimensions.

That confirms the dependence and relation between the specific-motoric abilities and situation-motoric skills.

Table 1 present the basic descriptive statistic parameters of variables of assessing specific-motoric abilities and situation-motoric skills. In addition, they show that the applied variables are normally distributed.

Observing the coefficient of variability (CV%), it is clear that there is different level of variation in achieved results

Aiming to determine the effect that latent specific-motoric factors have on the variables of assessing situation-motoric skills, first there were calculated factor scores of each respondent within the obtained latent factors, and later the linear regressive analysis was used, when latent specific-motoric factors were treated as predictors, and single variables of assessing situation-motoric skills were used as criteria.

Table 1. Basic descriptive parameters

Variables	N	X	SD	CV%	Min	Max	K-S
HT	52	34.94	3.65	10.45	25.00	43.00	.27
DHT	52	18.12	2.58	11.24	11.00	26.00	.08
LTW	52	23.01	2.28	9.91	14.00	29.00	.00
S20M	52	3.97	.29	7.30	3.31	5.03	.15
JT	52	10.31	.91	8.83	8.34	12.85	.43
TT	52	14.31	1.18	8.25	11.28	17.28	.47
SDB	52	23.90	3.60	15.06	9.00	33.00	.10
S936	52	20.13	6.93	34.43	4.00	40.00	.69
S9B	52	3.10	.36	11.61	2.35	4.20	.28
PBZ4	52	38.84	8.10	20.85	13.00	50.00	.01
PBZ2	52	23.26	8.98	38.61	5.00	49.00	.57
SP	52	18.65	4.52	24.24	3.00	30.00	.13

Analysing the results in table 2, which presents regressive analysis, it is obvious that between the predictor system and the criterion there is a statistically significant relation on level of $Q(F)=0.00$ ($R=0,356$). That suggests the specific-motoric latent factors can be explained 11% of variance of criterion ($\Delta = 0,11$). The

unexplained 89% can be ascribed to other characteristics and skill of our respondents, which is not a case of interest of our study.

Following the partial regressive (Beta) coefficients of the predictor system, we can notice that only the first latent factor has a single statistically significant contribution in explaining criterion (DELTA=0,11) on level of Q (B)=0,00.

Table 2. Regression analysis

Variables	r	Part-R	Beta	t	Q(B)
FACTOR_1	.333	.265	.281	3.508	.001
FACTOR_2	.211	.141	.137	1.824	.070
FACTOR_3	.048	-.009	-.008	-.109	.913
	R=.365	DELTA=.112		Q(F)=.000	

Researches in the field of similar questions have been conducted by the following authors: Jurko et al., 2013 and Nešić, et al., 2011.

References

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are worked out through the basic statistic parameters. Through component factor analysis 3 latent specific-motoric dimensions are isolated as well as one situation-motoric dimension. By regressive analysis there is established a low but statistically significant relation between the criterion and predictor latent dimensions. That confirms the dependence and relation between the specific-motoric abilities and situation-motoric skills. Researches in the field of similar questions have been conducted by the following authors: Jurko et al., 2013 and Nešić, et al., 2011.

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Foto: B. PEJOVIĆ

NAUKA: U PODGORICI, 2 - 5. APRIL

Radovi vodećih svjetskih autora

Podgorica će od 2. do 5. aprila biti domaćin 12. međunarodne naučne konferencije o transformacionim procesima u sportu „Sportska dostignuća“, a organizatori su Crnogorska sportska akademija i Fakultet za sport i fizičko vaspitanje, pod pokroviteljstvom Univerziteta Crne Gore.

Konferencija će okupiti preko 250 učesnika iz 27 zemalja, a svoje radove predstaviće vodeći svjetski autori i istraživači u oblasti sportskih, društvenih i humanističkih nauka i medicine.

U susret tom skupu, formiran je i Počasni odbor, kojim će predsjedavati premijer Crne Gore **Milo Đukanović**. Članovi su **Radmila Vojvodić** (rektorka UCG-a), ministarka nauke **Sanja**

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