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Research Article

ANTROPOMETRIC AND MOTOR CHARACTERISTICS OF THE KOSOVO SUPERLEAGUE MIDFIELDERS IN FOOTBOLL

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Abstract

The purpose of this research is to verify the anthropometric and motor status of the midfielders of the first six teams and midfielders of the last six teams in the ranking table of the Kosovo Football Superleague. Seventy two players from twelve teams, six per each team were selected as the sample of the study. Anthropometric characteristics, including height, weight, and Body Mass Index (BMI) and the motoric characteristics including, the values obtained from the tests such as standing high jump, standin long jump, 10x4m shuttle run, medium anaerobic force, maximum anaerobic force, running 30m and Sit and Reach were compared. As a result, no statistically valid differences were found in the anthropometric and motor variables analyzed in this paper, between the midfielders of the first and last teams in the ranking list of the Superleague of Kosovo.

Keywords: Football, anthropometry, motoric, midfielders, etj.

Introduction

Football is the most popular sport in the world, being played in every country of the world without exception (Reilly, T., 1976). Team (collective) games are sports in which body shape, body composition and adaptability, play an important role in providing the distinctive advantages in the player's specific positions (Bale, 1986).
Football as a sport belongs to the collective sports group, and according to the movements, it is part of the polistructural sport group of complex activities, which is distinguished by cyclic and acyclic movements. It's the most popular sport in the world. This comes from the presence of dynamics, emotionality and attractiveness, as well as from many complex technical-tactical movements, that occur in all parts of the field.
Nowadays, the football game has changed a lot, since the results are not reached instantly, but a long and systematic job is required to make the team have satisfactory achievements. Analysis oft matches in the past has been done in a simple way, whereas now the high technology development has resulted in the improvement of sports equipment, as well as in the increase of psychomotoric skills at a much higher level,and this has caused the structure of football to change, so in today's football we notice a high dynamic of the game, ball possession at the highest level, and a game in which every corner or part of the field is used, in order to reach an advantage over the opponent.
Thus, having knowledge about the anthropometric characteristics and physical preparation of professional players operating in the Superleague of Kosovo in Football, I can provide more information about the trainers in this specific group of players, thus favoring the training, and consequently the performance of the athlete. Therefore, the purpose of the current study is to describe the anthropometric characteristics and the physical preparation of the midfielders of Kosovar football elite.
In this research have been treated 72 midfielders of the Superleague of Kosovo. Footballers who have been subjected to tests, are active players. The measurements were carried out in the respective teams' stadiums. The tests have been done during the training of the clubs, in the morning.

Purpose of the research

The purpose of this research is to verify the anthropometric and motor status of the midfielders of the first six teams and midfielders of the last six teams in the ranking table of the Kosovo Football Superleague. Also, this research aims is to verify the correlations, distribution and level of asymmetry of the variables carried out through this research between the two groups of the midfielders of the supersleague of Kosovo.

Hypotheses

Based on the purposes of this research, basic hypotheses are also presented:
H-1 There are statistically valid differences between anthropometric and motor variables between midfielders of the first and last teams in the rankings of the Superleague of Kosovo.
H-2 A significant correlation between anthropometric and motor variables is expected in the first group of players.
H-3 An important correlation between anthropometric and motor variables is expected in the second group of players.

Method

The population from which samples have been taken for analysis in this research, is defined as the population of players participating in the Superleague of Kosovo, respectively 72 active midfielders of 12 football teams of Kosovo Superleague, of which 36 are midfielders of the first 6 teams and 36 midfielders of the last teams in the classification table. 13 variables have been analyzed, of which 6 are anthropometric variables, and 7 are motor.

Based on the purpose of this research, or on the objectives we intend to achieve in this paper, the following tests have been applied.

Anthropometric measures:

1. Body height --------- AL
2. Body weight ---------AW
3. BMI----------BMI
4. Girth of the chest- ---GCH
5. Girth of the thigh ----GTH
6. Girth of the calf ---- -GCA

Motor tests:
1. Standing long jump ------- SLJ
2. Standing high jump --------SHJ
3. Medium anaerobic force -- MEANF
4. Maximum anaerobic force-MAANF
5. Running 30m ----------V30m.
6. Shuttle Run 10x4 meters ---SHR
7. Sit and Reach ----------SAR

Methods of processing the results.

In order to realize the purpose set out in this research, to fulfill our goals, the results have been processed with the SPSS.Ver.20 program.

For all variables system groups, the basic statistical and distribution parameters for each variable, as well as the asymmetric and normal distribution measures have been calculated.
For determining the relation between anthropometric and motor variables, T-test, descriptive analysis, and correlative analysis have been applied.

Results

Table 1. Difference analysis between first and last teams

	1 first teams 2 last teams	N	Mean	Std. deviation	P
AL	1	32	1,7797	,04490	,777
	2	40	1,7828	,04591	
KG	1	32	71,969	3,9958	,800
	2	40	71,750	3,2875	
BMI	1	32	22,738	1,1883	,565
	2	40	22,585	1,0455	
GCH	1	32	88,531	3,6366	,688
	2	40	88,825	2,5408	
GTH	1	32	52,34	1,994	,175
	2	40	53,88	6,052	
GCA	1	32	35,81	1,655	,482
	2	40	36,08	1,492	
SLJ	1	32	2,2197	,12058	,583
	2	40	2,2042	,11580	
SHJ	1	32	49,22	3,480	,802
	2	40	49,43	3,448	
MEANF	1	32	31,153	2,0693	,922
	2	40	31,205	2,3327	
MAANF	1	32	58,291	3,7834	,878
	2	40	58,435	4,1015	
V30M	1	32	4,617	,1985	,742
	2	40	4,632	,2018	
V4X10M	1	32	9,349	,2482	,293
	2	40	9,415	,2755	
SAR	1	32	13,69	5,970	,185
	2	40	12,08	4,233	

Based on the results of the first table, no statistically valid differences were found in the anthropometric and motor variables analyzed in this paper, between the midfielders of the first and last teams in the rankings of the Superleague of Kosovo.

Table 2. Descriptive analysis of first teams results

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic
AL	32	,15	1,70	1,85	1,7797	,04490	,156	-1,054
KG	32	19,0	61,0	80,0	71,969	3,9958	-,179	,900
BMI	32	4,7	20,5	25,2	22,738	1,1883	-,187	-,247
GCH	32	18,0	80,0	98,0	88,531	3,6366	-,150	1,575
GTH	32	6	50	56	52,34	1,994	,454	-1,045
GCA	32	6	33	39	35,81	1,655	,182	-,796
SLJ	32	,50	2,00	2,50	2,2197	,12058	,249	-,206
SHJ	32	17	38	55	49,22	3,480	**-1,293**	2,419
MEANF	32	10,1	24,6	34,7	31,153	2,0693	**-1,170**	1,958
MAANF	32	18,3	45,6	63,9	58,291	3,7834	**-1,398**	2,825
V30M	32	,7	4,3	5,0	4,617	,1985	-,153	-1,190
V4X10M	32	,8	8,8	9,7	9,349	,2482	-,566	-,645
SAR	32	34	-8	26	13,69	5,970	-1,053	4,740
Valid N (listwise)	32							

Skewness: nëse = 0 normale, nëse < 0 negativ, nëse > 0 pozitive
Kurtosis: nëse ±2 mezokurtik, nëse <2 platykurtic, nëse >2 leptokurtic

Table 2 gives descriptive analysis of the anthropometric and motor variables of the first teams of the Superleague of Kosovo. If we look at the statistical method of the skewness asymmetry (Skewness,) we see that only SHJ, MEANF and MAANF tests have a value of -1,170 to -1,398. Also nine variables are negative asymmetries and four of them are positive asymmetries.

Table 3. Descriptive analysis of last teams results

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Skewness	Kurtosis
AL	40	,17	1,70	1,87	1,7827	,04591	-,049	-,623
KG	40	16,0	65,0	81,0	71,750	3,2875	,566	1,613
BMI	40	5,2	19,8	25,0	22,585	1,0455	,084	,516
GCH	40	15,0	81,0	96,0	88,825	2,5408	-,356	2,280
GTH	40	40	48	88	53,88	6,052	**4,757**	**27,078**
GCA	40	7	33	40	36,08	1,492	,061	,149
SLJ	40	,52	1,98	2,50	2,2043	,11580	,154	-,361
SHJ	40	16	41	57	49,43	3,448	-,210	,738
MEANF	40	10,2	26,4	36,6	31,205	2,3327	-,001	,208
MAANF	40	18,6	49,3	67,9	58,435	4,1015	-,138	,566
V30M	40	,7	4,3	5,0	4,632	,2018	,159	-1,236
V4X10M	40	1,3	8,8	10,1	9,415	,2755	,028	-,050
SAR	40	22	0	22	12,08	4,233	-,358	2,825
Valid N (listwise)	40							

Skewness: if = 0 normal, nëse < 0 negativ, if > 0 pozitive
Kurtosis: if ±2 mesokurtic, nëse <2 platykurtic, if >2 leptokurtic

Table 3 provides descriptive analysis of the anthropometric and motor variables of the last teams of the Superleague of Kosovo. If we look at the skewness asymmetry approach method (Skewness), in this case we see that only one variable exceeds the normal value above 1.00 of the asymmetry, we see that only the variable girth of the thigh(GTH) , have values of the skewness with a value of 4,757. Also, six variables are with negative asymmetry and seven with positive asymmetry.

Table 4. Correlation analysis, 6 first teams

	AL	KG	BMI	GCH	GTH	GCA	SLJ	SHJ	MEANF	MAANF	V30M	V4X10M
KG	,509 **,003**											
BMI	-,416 **,018**	,570 **,001**										
GCH	,426 ,015	,248 ,172	-,141 ,440									
GTH	,322 ,072	,605 **,000**	,339 **,058**	,201 ,270								
GCA	,412 **,019**	,531 ,002	,179 ,326	,387 **,029**	,695 ,000							
SLJ	-,017 ,928	,406 **,021**	,431 **,014**	-,156 ,395	,331 ,065	,296 ,100						
SHJ	,149 ,415	,052 ,779	-,086 ,642	,177 ,334	,170 ,352	-,009 ,959	,211 ,247					
MEANF	-,282 ,118	-,168 ,359	,093 ,612	-,003 ,989	,032 ,861	-,186 ,307	,216 ,235	,905 ,000				
MAANF	-,093 ,612	-,048 ,796	,040 ,827	,082 ,654	,111 ,546	-,098 ,593	,234 ,197	,969 **,000**	,981 **,000**			
V30M	,181 ,323	-,197 ,279	-,372 ,036	,265 ,143	-,159 ,384	-,034 ,852	-,563 **,001**	-,371 ,037	-,435 ,013	-,425 ,015		
V4X10M	,082 ,654	-,296 ,100	-,386 **,029**	,240 ,186	-,159 ,385	-,054 ,769	-,554 **,001**	-,403 **,022**	-,404 **,022**	-,415 **,018**	,647 **,000**	
SAR	-,132 ,473	,060 ,743	,194 ,287	-,309 ,086	-,037 ,842	-,068 ,711	-,059 ,749	,053 ,773	,099 ,591	,081 ,659	-,059 ,748	-,104 ,570

Based on the correlation analysis in table 4, applied in the sample of 36 midfielders in the Superleague of Kosovo of the top 6 teams in the table ranking, in 13 variables of which (6) anthropometric variable (7) motor variables, we note that AL has statistically valid correlation with BMI and GCA ($p < 0.00$). KG has statistically valid correlation with BMI, GTH and SLJ ($p < 0.00$). Over there is correlation with GTH, SLJ, and V4X10M ($p < 0.00$). GCH correlates statistically only with GCA ($p < 0.00$). GTH correlates statistically with KG and BMI ($p < 0.00$). GCA has statistically valid correlation with AL and GCH ($p < 0.00$). SLJ has statistically relevant correlation with KG, MBI,

V30M and V4X10M (p <0.00). SHJ has statistically valid correlation with FANMAX and V4X10M (p <0.00). MEANF has statistically valid correlation with FANMAX and V4X10M (p <0.00). MAANF has correlation statistically valid only with V4X10M (p <0.00). V30M has statistically valid correlation with CHJ and V4X10M (p <0.00). V4X10M has statistically valid correlation with BMI, SLJ, SHJ, MEANF, MAANF and V30M (p <0.00)

Table 5. Correlation analysis, 6 last teams

	AL	KG	BMI	GCH	GTH	GCA	SLJ	CHJ	MEANF	MAANF	V30M	V4X10M
KG	,555											
	,000											
BMI	-,574	,361										
	,000	,022										
GCH	,110	,421	,303									
	,500	,007	,057									
GTH	-,088	,201	,307	,100								
	,588	,214	,054	,538								
GCA	,229	,427	,164	,423	,109							
	,155	,006	,313	,007	,503							
SLJ	-,117	-,003	,124	,419	,100	,161						
	,474	,988	,444	,007	,541	,320						
SHJ	-,145	,055	,214	-,023	-,021	-,126	,070					
	,371	,737	,184	,886	,899	,439	,666					
MEANF	-,509	-,152	,418	-,047	,020	-,187	,118	,924				
	,001	,348	,007	,775	,903	,249	,468	,000				
MAANF	-,364	-,048	,357	-,022	,012	-,153	,105	,973	,987			
	,021	,767	,024	,893	,944	,346	,517	,000	,000			
V30M	-,189	-,181	,041	-,066	-,312	-,087	-,006	,017	,077	,049		
	,244	,263	,803	,685	,050	,592	,971	,917	,635	,763		
V4X10M	,092	-,125	-,214	-,040	-,117	,116	-,086	-,416	-,405	-,421	,247	
	,574	,441	,184	,808	,473	,475	,596	,008	,010	,007	,124	
SAR	,133	-,198	-,356	-,509	-,095	,088	-,248	-,269	-,287	-,294	-,344	,095
	,412	,222	,024	,001	,561	,587	,124	,093	,073	,066	,030	,558

Based on the correlation analysis in Table 5, applied in the sample of 36 midfielders in the Superleague of Kosovo of the last 6 teams in the table ranking, in 13 variables of which (6) variable anthropometric (7) variables, we note that AL has a correlation statistically valid to BMI and MEANF (p <0.00). KG has a correlation statistically valid with GCH and GCA (p <0.00). There is a correlation only with MEANF (p <0.00). GCH correlates statistically only with GCA and SHJ (p <0.00). GTH correlates statistically with KG and BMI (p <0.00). GCA correlates statistically with KG and BMI (p <0.00). The SHJ correlates statistically with KG, MBI (p <0.00). SHJ has statistically valid correlation with MEANF, MAANF and V4X10M (p <0.00). MEANF has statistically valid correlation with MAANF and V4X10M (p <0.00). MAANF has correlation statistically valid only with V4X10M (p <0.00). V30M has statistically valid correlation with SLJ and V4X10M (p <0.00). V4X10M has statistically valid correlation with BMI, SLJ, SHJ, MEANF, MAANF and V30M (p <0.00).

Conclusion

The main findings of this study describe the difference between the anthropometric characteristics and the physical preparation of the midfielders of the first 6 teams and of the last 6 teams in the ranking table of the Kosovo Superlague in football.

Based on the results of this research we can conclude that the hypotheses set out in this paper have not been fully proved. There were no statistically valid differences in the anthropometric and motor variables between the midfielders of the first and last teams in the ranking list of the Superleague of Kosovo.

The researched results between different positions and components of motor skills may differ due to the non-scientific application of the training program,

training the trainers about the principles of adaptability to be followed, the availability of facilities, etc. In addition to these factors, the environmental conditions, the economic situation, the social background of

players may also have influenced the performance . This study has been limited to the midfielders of Kosovo Superleague of football. Similar studies can be carried out in other positions in the football field, depending on the position of the players in the field.

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