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DISCRIMINATIVE ANALYSIS OF MORPHOLOGIC AND MOTORIC PARAMETER TO JUDO AND KARATE SPORTIEST BOYS

1. INDRUCTION

Judo and karate are the sports from the group of sports which have poly structural acyclic movements, and which unite in their movement structures in highest levels of the psychophysical characteristics. So, judo belong acyclic activities wrestling character, while karate activities belong acyclic striking character. Poly structural sports require a high degree of development of anthropological characteristics as a theory of achieving quality results. A successful athlete must have the speed of a sprinter, the power of a weight lifter, the endurance of a middle-distance runner, the flexibility and the precision of movement and the feeling for the space that a gymnast has. He also has to be intelligent, decisive, brave and highly motivated in order to achieve more optimal result. (Segedi I. 2011). Judo and karate are the sports with its specific structure of movement, a big range of throwing and ground techniques as well as the competitor characteristics, which demands a unique psychological preparedness, which can significantly compensate the lack of physical, functional and technical abilities (Serić H. 2004). Today, there is the insistence on a more rational and optimal training process for achieving high sport results, which was unimaginable without the application of the scientific research methods. The success in sport depends on a range of factors (motoric, morphological, functional, cognitive and connotative characteristics of the athletes). Knowing all the mentioned dimensions of a personality, a regular and effective selection of the athletes and the application of the most effective programs in training had made possible. (Popovic, S.1985).

2. PROBLEM AND PURPOSE OF INVESTIGATION

Problem in this investigation was to investigate if there are important changes in morphologic characteristics and motoric abilities, between judo and karate sportiest boys and which from changes has the biggest contribute in differences verify. Purpose of this investigation is the verify of changes between results of changes morphologic characteristic and physical abilities of judo sportiest and karate sportiest boys of secondary schools in Prizren 16-17 ages.

3. INVESTIGATION METHODS

3.1. Tested sample

Sample in this project is component from 160 secondary school boys in Prizren 16-17 ages, separated in two groups. First group (A) is from 80 judo sportiest boys and second group (B) is from 80 karate sportiest boys which in the moment of investigation had fulfill all health condition, and other necessary critters to be part of investigation.

3.2. Changes sample

- Sample of measure instrument for valuation anthropometric characteristic:
 1. Body length (LEBO)
 2. Length of the leg (LELE)
 3. Length of the arm (LEAR)
 4. Body weight (BOWE)
 5. Adipose tissue under skin of stomach (ATST)
 6. Adipose tissue under skin of triceps (ATTR)
 7. Adipose tissue under skin of biceps (ATBI)
 8. Adipose tissue under skin of sub scapulars (ATSS)
 9. Adipose tissue under skin of sub iliac a (ATSI)
 10. Adipose tissue under skin of list (ATSL)
- Sample of measure instrument for valuation motoric abilities:
 11. Flamingo test for balance (FLBA)
 12. Taping for hands (TAHE)
 13. Reach sitting down position (RSDP)
 14. Long jump from place (LOJU)
 15. Squeeze palm (SQPA)
 16. Recumbence - sitting down (RESD)
 17. Support the knuckle (SUKN)
 18. Run there-hire (R10x5M)

To elaborate result were used t-test for small sample, independent and discriminative canonic analysis. Results were elaborate with static program static's 6.0.

4. RESULT OF DISCUSSION

Analysis changes of morphological characteristic and motoric abilities between judo sportiest boys and karate sportiest boys are realized through t-test.

Chart 1. Changes importance of morphologic test between group (A) and group (B)
Verified through t-test for independent sample.

		<i>Judo sportiest boys Mean A</i>	<i>Karate sportiest boys Mean B</i>	t	df	Sig.
1	LEBO	172.4875	174.2500	-1.274	79	.206
2	LELE	63.5337	65.4025	-1.026	79	.308
3	LEAR	93.8625	94.9750	-1.095	79	.277
4	BOWE	74.5750	76.0875	-1.307	79	.195
5	ATST	1.5287	1.4788	.453	79	.652
6	ATTR	1.0313	1.0925	-.967	79	.336
7	ATBI	.8175	.8788	-1.615	79	.110
8	ATSS	1.4400	1.2487	1.458	79	.149
9	ATSI	1.8213	1.6400	1.229	79	.223
10	ATSL	.8550	.8150	1.032	79	.305

According to given results through t-test analysis present in chart 1, can be notice that is obvious not important static's change in this morphological characteristic. In these tests which are represent a longitudinal dimensionality; body measure and adipose tissue were not verified important static's changes between group (A) judo sportiest and group (B) karate sportiest boys.

**Chart 2. Importance changes of motoric test between group (A) and group (B)
Verified through t-test for independent sample**

		Judo sportiest boys Mean A	Karate sportiest boys Mean B	t	df	Sig.
11	FLBA	39.7641	40.8323	-.539	79	.591
12	TAHE	11.4526	10.6537	3.645	79	.000
13	RSDP	25.6500	27.5250	-2.559	79	.012
14	LOJU	220.6625	212.5125	3.636	79	.000
15	SQPA	86.8750	80.1875	3.755	79	.000
16	RESD	25.6125	24.8875	1.504	79	.136
17	SUKN	55.6934	48.5449	3.981	79	.000
18	R10x5M)	20.8854	19.7841	3.760	79	.000

According to results analysis of t-test present in chart 2, can be noticed that is obvious important static's change in test through which is valuate: taping for hands (TAHA .000), reach sitting down position (RSDP.012), long jump from place (LJFP.000), squeeze palm (SQPA.000), support the knuckle (SUKN.000) and run there-hire in 10x5 meter (R10x5M.000). Judo boys achieved significantly better results in the following variables: long jump from place (LOJU), squeeze palm (SQPA), and motor variables: support the knuckle (SUKN) and karate boys achieved significantly better results in the following variables: taping for hands (TAHA), reach sitting down position (RSDP), and run there-hire in 10x5 meter (R10x5M). According to given results can be noticed that to test for valuation motor abilities were verified important static's changes between group (A) judo sportiest and group (B) karate sportiest boys.

Chart 3. Importance of isolated discriminative function of morphologic characteristic

Function	Eigenvalue	Canonical Correlation	Wilks' Lambda	Chi-square	Df	Sig.
1	.160	.372	.862	22.738	10	.012

Results in chart 3, show that discriminative force of anthropometric test present through test Wilkes Lambda is enough high (.862) show that changes between group (A) judo sportiest and group (B) karate sportiest boys are important in level importance (Sig.=012). Coefficient of correlations canonical show that 37 % importance of canonical is explained. Coefficient of correlation explained in morphological characteristics treated test has high value (Chi-sqr.=22.738). Analysis of changes to motor abilities

between group (A) judo sportiest boys and group (B) karate sportiest boys, were tested through canonical discriminative analysis.

Chart 4. Factorial structure of isolated discriminative function to morphologic characteristic

Morphologic characteristic	No.	Variables	Function 1
	7	ATBI	.316
	8	ATSS	-.273
	4	BOWE	.272
	1	LEBO	.250
	9	ATSI	-.230
	3	LEAR	.212
	2	LELE	.208
	10	ATSL	-.201
	6	ATTR	.191
5	ATST	-.084	

Result present in chart 4, show that the most contribute in discriminative function has anthropometric test for valuation of adipose tissue under skin, defined through variables: adipose tissue under skin of biceps (ATBI.316). Adipose tissue under skin of sub scapulars (ATSS-.273) and body weight (BOWE.272). The other tests have not show important contribute in discriminative function of anthropometric characteristic.

Chart 5. Importance of isolated discriminative function to motor abilities.

Function	Eigenvalue	Canonical Correlations	Wilks' Lambda	Chi-square	Df	Sig.
1	.610	.616	.621	73.330	8	.000

Results in chart 5, show that discriminative force motor test present through test Wilks Lambda is medium high (.321) show that changes between group (A) judo sportiest boys and group (B) karate sportiest boys are important in level importance (Sig.=000). Coefficient of correlation canonical show that 62% is explained in fact discriminative function. Coefficient of correlation explained in treated motor test has very high value (Chi-sqr=73.330). Changes analysis of motor abilities between group (A) judo sportiest and group (B) karate sportiest boys, through canonical discriminative analysis.

Chart 6. Factorial structure of isolated discriminative function to motoric abilities

Motoric abilities	No.	Variables	Function 1
	18	R10x5M	.393
	12	TAHE	.362
	17	SUKN	.360
	15	SQPA	.351
	14	LJFP	.329
	13	RSDP	-.247
	16	RESD	.142
	11	FLBA	-.051

Present result in chart 6, show that the most contribute in discriminative function has motoric changes for valuation: run there-hire (R10x5M .393), raping for hands (TAHA.362), support the knuckle (SUKN .360) and brightening of smacking (TISM.351). The other test of motoric have not very important contributes in discriminative function, because their correlation with discriminative function doesn't give important function in motoric abilities. High level of motoric abilities to treated sample groups (A) of judo sportiest comparing with group(B) of karate sportiest, can be dedicated except to endogen factors also to exogenous, that were achiever through transformation process in sport clubs, in report with karate sportiest boys. It's known that in exercising process of work with young sportiest its characteristic consignment grow gradually, or step by step till in highest limit of maximal possibility to organism confront. This is one from basic reaction over which build adaptation process of organism.

5. CONCLUSION

In sample from 160 entities 16-17 ages, separated in two groups: (A) judo sportiest and (B) karate sportiest, were implicated 18 test from them 10 morphologic and 8 motoric test. Purpose of this investigation was to verify changes between few differences of morphologic characteristic and motoric abilities between group (A) judo sportiest and group (B) karate sportiest boys. For changes verify between groups were used t-test for small independent sample and the canonical discriminative analysis. Results of this investigation show that boys who were active in judo sport (A), comparing with boys that are active in karate sport (B), exist static's important changes in motoric abilities, but this change is not observed also to morphological variables. Boys who were active in judo sport (A), achieved significantly better results in the following variables: long jump from place (LOJU), squeeze palm (SQPA), and support the knuckle (SUKN), while boys who were active in karate sport (B), achieved significantly better results in the following variables: taping for hands (TAHA), reach sitting down position (RSDP), and run there-hire in 10x5 meter (R10x5M). According to this we can conclude that judo athletes groups (A) have the better physical abilities in explosive strengths and static strengths comparing with karate athletes group (B) who have a better physical abilities in the speed and flexibility. Depending on the specifics of their sports, judo athletes have some better physical abilities while karate

athletes have some other better physical abilities. This means that regular physical activity has different influence to judo athletes and different influence to karate athletes. Judo and karate training, given the sensitive period of life in which is conducted, it must be strictly based on the rules that will allow top quality preparation and training without any risk and must be conducted in accordance with the chronological age and biological features.

6. LITERATURE

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In sample from 160 boys from secondary schools of Prizren 16-17 age, separated in two groups were implicated 18 tests, from them 10 test for valuation morphologic characteristic and 8 test, for valuation motoric abilities. Group (A) is component from 80 judo athletes' boys and group (B) from 80 karate athletes' boys. Purpose of this investigation is to verify changes between judo and karate athletes' boys in morphologic characteristic and motoric abilities. The problem of investigation was to investigate if there are changes between judo and karate athletes' boys in morphologic characteristic that represent longitudinal dimensionality, body measure and adipose tissue, and in motoric abilities (used is eurofit battery tests). For global analysis of dimension to some changes and variable system (which contribute in changes between judo and karate athletes' boys) were implicated t-test for small independent sample and, canonic discriminative analysis. The results of this study show that judo and karate athletes significantly differ among themselves in motoric abilities, judo athletes are better in the

tests: long jump from place (LOJU), squeeze palm (SQPA) and support the knuckle (SUKN), while the karate athletes are better in the tests: taping for hands (TAHE), reach sitting down position (RSDP) and run there-hire 10x5 meters (R10x5M), but these changes were not noticed and morphological variables.

Key words: judo athlete boys, karate athlete boys, morphologic characteristic, motoric abilities discriminative analysis.

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■ ZAVRŠENA KONFERENCIJA CRNOGORSKE SPORTSKE AKADEMIJE ■

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M. JOVANOVIĆ
Podgorica

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- Konstatovano je da se odgovorilo na mnoga pitanja iz te sfere. Vidjeli smo i kako na sve to gledaju naše kolege, koje su došle iz 15 država, a bilo ih je iz zemalja van Evrope. Uostalom, svi su odnijeli lijepe uspomene iz našeg glavnog grada - rezimirao je Bjelica.

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On se nada da će i na tim konferencijama biti prezentovano sve što se radilo tokom prethodna tri dana u Crnoj Gori.



- Podsjećam da će svi radovi koji su se našli na našem skupu biti publikovani

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Konferenciju je, pored CSA, organizovao Univerzitet Crne Gore, pod pokroviteljstvom Ministarstva prosvjete. ▀

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Fakultet za sport i fizičko vaspitanje iz Nikšića, čiji je Bjelica dekan, realizovaće dva projekta, koja se odnose na repulziju sportskih lopti, kao i istraživanje o antropološkom statusu učenika nižih razreda osnovnih škola i predškolskog uzrasta u Crnoj Gori.