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Difference in Motor Abilities between Karate and Taekwondo Athletes

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Abstract

The purpose of this study was to compare motor abilities between young karate and taekwondo athletes. Subjects were karate athletes (n=15, age= 17.28± 1.63 years, height= 165.13±4.22cm, weight= 50.866±4.22) and taekwondo athletes (n=15,age 18.33±1.39years , height= 156.66±5.80, weight= 47.46±3.68).Motor fitness is present aptitude skill, includes strength and co-ordination enriches todays manpower in players performance. Measuring instruments for motor abilities evolution where the test of; i. explosive strength; ii. segment speed; iii. repetitive strength. Results were expressed by descriptive statistics, while in aim to calculate significant differences between mean values of motor abilities between karate athletes and taekwondo athletes. In order to assess and monitor the development of motor abilities in athletes it is important to provide reliable data, that creates a good base for the results at a later age, as well the basis for taking any corrective steps in the practical realization of the exercise program. The level of $p \leq 0.05$ was considered significant.

Keywords: motor abilities, karate athletes, taekwondo athletes

Introduction

The term motor fitness was developed to state a vast concept than physical fitness. This wide term means the ability to perform basic motor. A comparative study of motor performance level 409 skill efficiently and effectively. Power, balance, agility, speed, reaction time and kinesthetic perception are the traits of motor performance of any game's skill. With a good and well efficient combination of a these motor performance traits a player can give all their utmost throughout the most strenuous of competitive matches[1]. Every motion is one complex kinetic whole for itself, which means alternately and harmonic connectors in one synchronized rhythm. Specific motor abilities are acquired and conditioned by specificity of training process from each sport. It is found that athletes significantly differ in certain motor abilities from other athletes of same age but of different events which they perform. Training process in karate and taekwondo should have an individual, which is personalized approach in regards to the development of abilities and characteristics of each athlete. Therefore, it is necessary for coaches to determine development model of each athlete or group that would be appropriate for individual characteristics, age, gender, and conditions in which the training process is implemented[2]. Training programs are more effective if there is two way exchange of information without any hesitation i.e. from the coaches to the athletes and from the athletes to the coaches. The effectiveness of planning and programming of training process with karate and taekwondo athletes depends upon the following factors; i to set the limits of the initial state or a relatively homogeneous group in the area of the most important anthropological characteristics and motor abilities; ii. to determine the desired final state in accordance with the requirement of program content and capabilities to achieve the desired state at the appropriate time interval, iii. correctio of the program under influence of feedback. The actual aim of this reserch was to determine the motor abilities of subjects, i.e. karate athletes and taekwondo athletes and determine.

Methods

For this study karate athletes (n=15, age= 17.28± 1.63 years, height= 165.13±4.22cm, weight= 50.866±4.22) and taekwondo athletes (n=15, age 18.33±1.39 years, height= 156.66±5.80, weight= 47.46±3.68) were the participants who where divided into two separate groups on the basses of the events thy perform and afterwards measuring instruments for motor ability ever introduced to both the groups, it consists of following tests.

Explosive Strength Test: i. Standing long jump expressed in cm (MESJ), ii. Triple jump from the stationary position expressed in cms(METJ), iii. Sargent jump (MSSJ)

Segment Speed: i. Foot tapping, expressed in number of cycles (double strokes)/20s (MSFT), ii. Hand tapping, expressed in number of cycles (double strokes)/20s (MSHT), iii. Tapping with feet against the wall, expressed in number of cycles (double strokes)/15s (MSTW)

Repetitive Strength: i. Trunk lifting on the swedish bench, expressed in number of correctly performed lifting (MRTL), ii. Mixed pull ups, expressed in number of correct performed pull ups(MRMP), iii. Squats expressed in number of correctly performed squats (MRSS)

Results were expressed by descriptive statistics, while in aim to calculate significant difference between mean value of motor abilities between two independent groups. (karate athletes and taekwondo athletes).

Table-1
Descriptive Statistics of the Motor Abilities of Karate Athletes

Parameters	Mean±SD	Minimum	Maximum	ST. Error
MESJ	211.33±19.73	188	235	5.09
METJ	557.73±59.18	456	640	15.28
MSSJ	48.60±5.38	45	62	1.38
MSFT	28.73±6.58	20	42	1.70
MSHT	42.46±7.20	30	55	1.86
MSTW	35.53±4.10	30	40	1.05
MRTL	26.80±8.20	8	40	2.11
MRMP	11.00±3.07	5	15	0.79
MRSS	84.80±30.77	32	143	7.94

Table-2
Descriptive Statistics of the Motor Abilities of Taekwondo Athletes

Parameters	Mean±SD	Minimum	Maximum	ST.Error
MESJ	196.26±13.93	185	230	3.59
METJ	538.66±50.83	450	600	13.12
MSSJ	54.66±4.80	50	65	1.24
MSFT	35.86±5.59	25	45	1.44
MSHT	41.60±7.24	36	58	1.87
MSTW	28.93±3.88	25	36	1.00
MRTL	28.66±9.15	10	40	2.36
MRMP	11.13±3.44	6	18	0.88
MRSS	74.66±28.50	30	140	7.35

Table-3
Difference in motor ability in karate athletes and taekwondo athletes on the

Parameter	Mean±SD (Karate)	Mean±SD (Taekwondo)	T-Value	P Value
MESJ	211.33±19.73	196.26±13.93	-2.415	0.06
METJ	557.73±59.18	538.66±50.83	-0.946	0.22
MSSJ	48.60±5.38	54.66±4.80	3.256	0.04

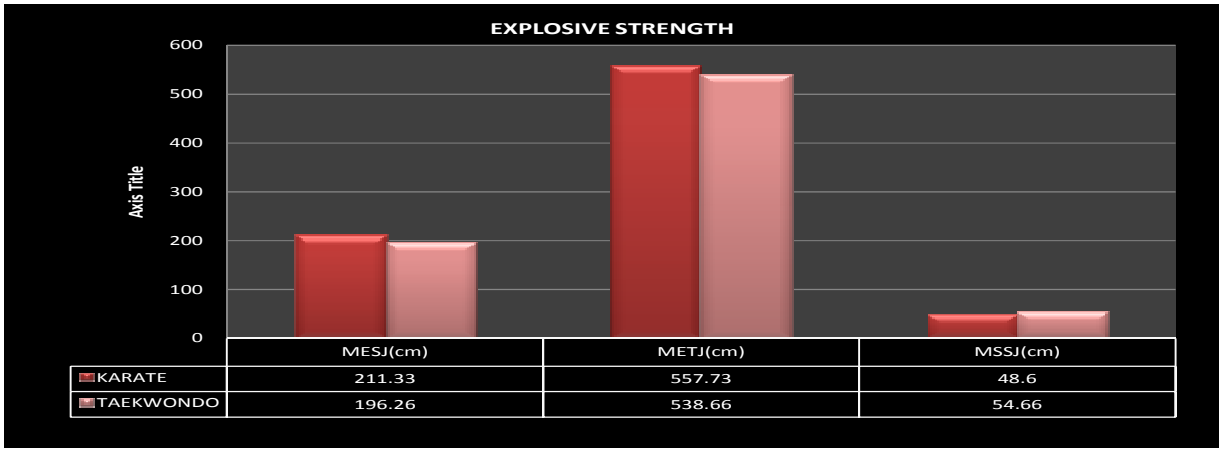

Figure-1
Basis of explosive strength, Graphical representation of difference in motor ability in karate athletes and taekwondo athletes on the basis of explosive strength

Table-4
Difference in motor ability in karate athletes and taekwondo athletes on the basis of segment speed

Parameter	Mean±SD(Karate)	Mean±SD(Taekwondo)	T-Value	P Value
MSFT	28.73±6.58	35.86±5.59	3.354	0.03
MSHT	42.46±7.20	41.60±7.24	-0.328	0.38
MSTW	35.53±4.10	28.93±3.88	-4.525	0.02

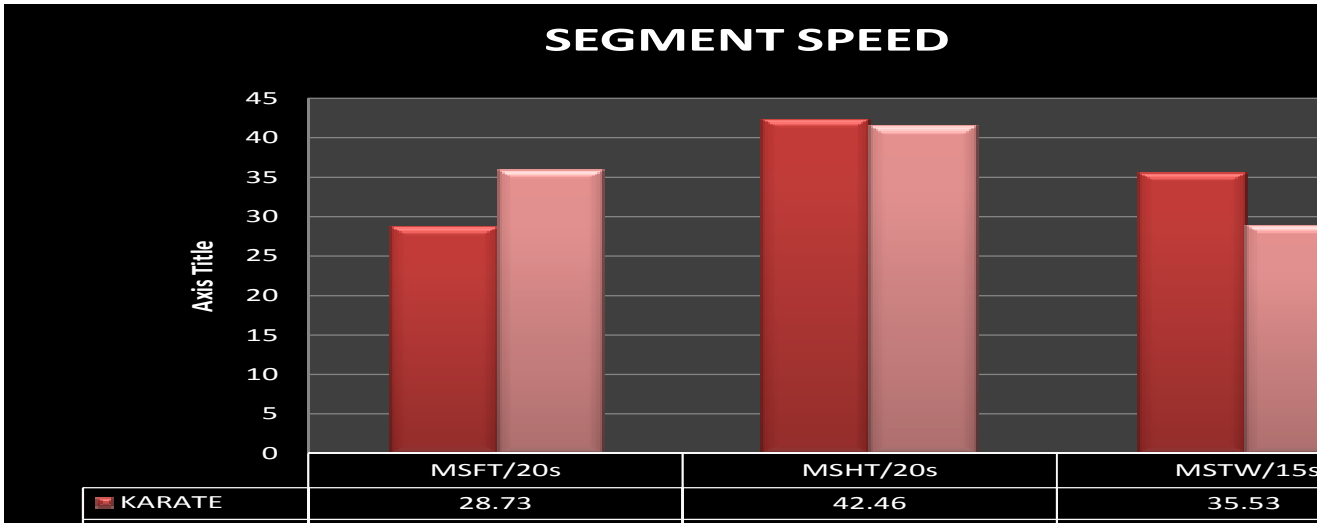

Figure-2
Graphical reorientation of difference in motor ability in karate athletes and taekwondo athletes on the basis of segment speed

Table-5
Difference in motor ability in karate athletes and taekwondo athletes on the basis of repetitive strength

Parameter	Mean±SD(Karate)	Mean±SD(Taekwondo)	T-Value	P Value
MRTL	26.80±8.20	28.66±9.15	0.588	0.30
MRMP	11.00±3.07	11.13±3.44	0.112	0.46
MRSS	84.80±30.77	74.66±28.50	-0.935	0.22

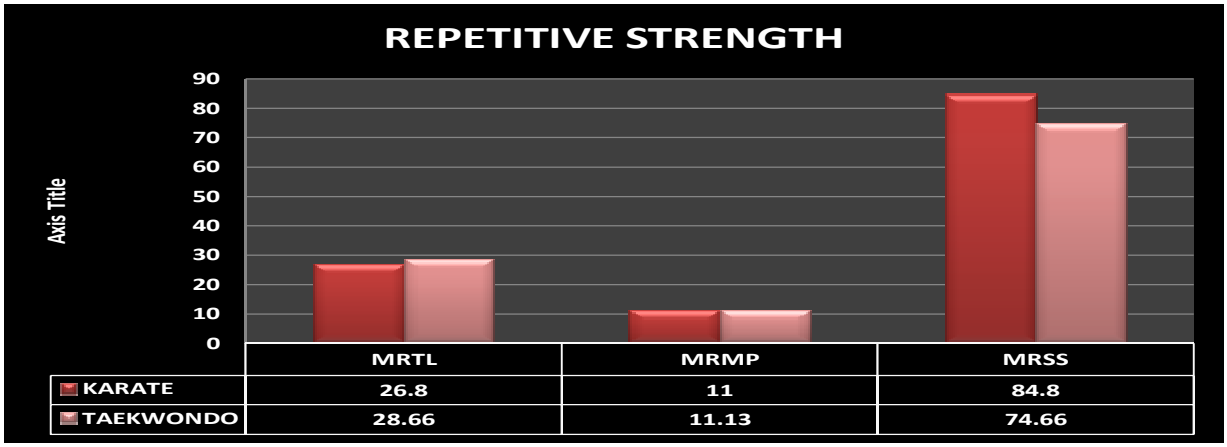

Figure-3
Graphical reorientation of difference in motor ability in karate athletes and taekwondo athletes on the basis of repetitive strength

Results and Discussion

Results: The central and dispersive parameters of the studied of the two groups (Karate athletes and taekwondo athletes) reveal some diffrences which has been detailed in tables (3,4,5). Figure has been depicted with the help of the means. The process of determining the diffrence in motor abilites between Karate atheletes and taekwondo atheletes was carried out by means of t-test.the results of the analysis shows statistically significant diffrence between karate atheletes and taekwondo atheletes. T-test results (table-3) in relations to motor abilites which dipicts the explosive strength of the karate atheletes and taekwondo atheletes is favourable to karate athletes in standing long jump (MESJ-2.415) and triple jump from the stationary position (METJ-0.946) while As the t-test results in relation to motor abiltes (table-4) of both groups which shows the motor it was favourable towards taekwondo atheletes in sargent jump (MSSJ 3.256). ability in relation to segment speed was in favour of taekwondo atheletes in foot tapping, expressed in number of cycles (double strokes)/20s (MSFT 3.354) while in Hand tapping, expressed in number of cycles(double strokes) /20s (MSHT-0.328) and Squats expressed in number of correctly performed squats (MRSS-4.525) it favoured the karate atheletes. As the t-test results in relation to motor abiltes (table-4) of both groups which shows the motor ability in relation to Repetitive strength was in favour of taekwondo atheletes in Trunk lifting on the swedish bench, expressed in number of correctly performed lifting (MRTL 0.588) as well as Mixed pull ups, expressed in number of correct performed pull ups (MRMP 0.112) by a slight variable but it was favourable to Karate atheletes in squats expressed in number of correctly performed squats (MRSS-0.935)

Discussion: It is observed after the analysis of means and variability of the variables of both group of atheletes shown in Tables that subjects differ in all variables except the variable Mixed pull ups, expressed in number of correct performed pull ups. Also, subjects manifested better results, pointing to Also, subjects manifested better results, pointing to the fact that motor skills are during events period. Previous knowledge of the developing intensively characteristics of the ontogenesis in some periods is the basic precondition for the rational management of the individual development of motor skills and access programming process in reserch.

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Conclusion

Based on research results we can draw a conclusion: Analyzing given results we can conclude that in explosive strength of the Karate atheletes and taekwondo atheletes is favourable to taekwondo atheletes as in relations to motor abilites, the explosive strength of the Karate atheletes and taekwondo atheletes is favourable to Karate athletes as well as in relation to Repetitive strength,

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