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Growth rates and specific motor abilities as a function to predict the selection of talents taekwondo sport (Egyptian national project)

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Abstract. The aim of this study is to investigate the contribution ratios of Growth rates and specific motor abilities as a function to predict the selection of talented taekwondo sport. The study was carried out on a sample of (755) individual Clubs and youth centers across the governorates of Egypt, and the average age (11.64 ± 0.48 years), height (144.06 ± 7.04 cm) and weight (36.86 ± 7.51 kg). Tests were conducted in the period from 7/11/2011 to 29/12/2011 selected individuals underwent the following tests and measurements (Ability, Hinge flexibility basin, Agility, Kinetics speed in level trunk, Kinetics speed in level face, Endure Performance , Performance), the researcher used the descriptive survey method. The statistical analysis SPSS was used to apply formulas statistical by calculating: average, standard deviation, correlation, stepwise regression. The results showed that the growth rates and special motor abilities contribute to the selection of talented taekwondo. In addition, taekwondo players are characterized by flexibility, Endure performance and motor speed. The study concluded that there are five factors affect the selection of talented junior Taekwondo detailed flexibility contribute (28.8%), endure Performance contribute by (15.1%), ability contribute (7.8%), Growth rates (age, length, weight) a contribution rate (5.2%), kinesthetic speed motor (in the level of the trunk - in the face level) (1.1%). Predictable talented selection junior taekwondo through the following equation = 49.835 + Age (-0.389) + Length (0.157) + Weight (-0.188) + Flexibility (-0.359) + Ability (0.081) + Agility (-2.261) + Endure Performance (0.608) + Kinetics speed motor in the level of the trunk (0.586) + Kinetics speed motor in the face level (0.260). These results should be taken into account by the taekwondo Federation and trainers for use as an indicator for selecting talented taekwondo sport.

Keywords. Growth rates, talents, motor abilities, taekwondo.

Introduction

Taekwondo of sports activities more influence in the world sports recently Technical Division of the Taekwondo consists of Georgia - Poomsae, the art of self-defense, presentations art and Breaking. The establishment of a world championship accredited by the (International 2015) of Georgia and Poomsae ties to the Olympic Games Georgia only till now, Georgia is the art of the clash (Ahmad, 2007; Mohammad, 2000; Nater et al., 2006; He et al., 2010). Even player can access to the best possible level must have the greatest possible flexibility and which can be measured in This Sport (Mohammad, 2000; West et al., 2006; Chicharro et al., 1998).

The selection of talented people in the sports field in general and Sport of the Taekwondo in particular human wealth must be discovered, welfare development, conservation and development, it has been the process of acquisition of talented people held in several ways, either by chance or observation. As well as personal experience or other methods had lacked scientific setting (Mohammad, 2000; Ebada, 2013).

It is the right choice for the talented taekwondo young people are the first steps of superiority on the road to the championship, so the attention are stationed on the settings, capacity-building, preparations for the qualifying taekwondo sports and thereby achieve the principle of economy of effort in the sports training. As the levels, high sports achieve players with the qualities, physical abilities and mobility for the type of sporting activity chosen. Including building dynamics of as one of the basic requirements of excellence and creativity sports physical abilities and mobility for each sports is a fundamental requirement to reach the best results (Izzattal, 1987; Sjodin et al., 1990; Thrane et al., 1991; Ahmad, 2003; Ebada, 2003; Ebada, 2013)

Can be identified usually talents through the availability of the growth rates and tests to measure capacity building dynamics of gender sporting activity chosen in determining the talent to young people in the stage of (11-12 years). So the progress of this study a variety of information on how to use the growth rates and dynamics of discovering talents in taekwondo through the identification of a physical attributes (Flexibility - Ability – Endurance Performance – Kinetics speed in level trunk, Kinetics speed in level face). All of which are believed to have a bearing on the success of the Taekwondo player in achieving its goal. It is therefore proposed that the tests of rates of growth and dynamics of the Taekwondo sport a decisive means to search for

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information on the selection. With a view to assisting based instructor's athletes to achieve the highest possible level in taekwondo (Sobhi, 1996; Walsh et al., 2004; Ahmad, 2007; Murakami et al., 2010).

Taekwondo sport in the recent period has many legal amendments in the method used to calculate the points, before the use of Sadr shield email is now adopted officially only in the matches. The conditions of calculating point under the old law that up kick or beating strongly fist influential clear have an impact in the discount. It was therefore a force and distinctive as fast as one of the most important physical characteristics that should be available for golfers taekwondo (Bortner et al., 1983; Mohamed, 2000; Tsai et al., 2011).

Now after the adoption of the use of chest protector electronic Hugo in the matches the imputation of strikes in the head of points higher than the calculated in the chest and abdomen Hugo. It has become an element of flexibility is one of the most important characteristics of the Taekwondo players as well as to the motor abilities other (Mohamed, 2000; Jespersgaard et al., 2002; Walsh et al., 2004; Yang et al., 2007). Sports selection aims to emerging selection exercise any sport from sports to choose the players, by disclosing the talent and abilities and different aspects of preparation of the motor (Izzat, 1987).

Selectivity is the process used to predict the adoption based on guideline rates of growth as well as to some physical abilities, directories kinesthetic level and players performance. With the heroic level, including allowing the interaction of these factors in the equations of the pilot predictive be taken into account in the selection of the talented young taekwondo which help in achieving the economy in the human effort in the sports field (Izzat, 1987).

Through the work of a researcher with the national project to select talented youth taekwondo within the committee formed by the Ministry of Youth and the Egyptian Federation of the Taekwondo from 11-17-2011 to 12-29-2011 and measurements and tests in a number (14) the province at the level of the Republic and included a number of (755) young.

There was an urgent need to use the scientific approach as a means of selecting the talented athletes in taekwondo, prompting a researcher for this study to try to identify the relationship of the rates of growth rates of contribution kinesthetic capacities for the selection of the Taekwondo talented young people. Therefore, the aim of this study is to investigate the contribution ratios of Growth rates and specific motor abilities as a function to predict the selection of talented taekwondo sport.

Methods

Applied study on a sample of 755 individual Clubs and youth centers across govern orates of Egypt (Mean age = 11.64 ± 0.48 years, height = 144.06 ± 7.04 cm, and weight = 36.86 ± 7.51 kg). Tests were conducted in the period from 7/11/2011 to 29/12/2011 selected individuals underwent the following tests and measurements (Ability, Hinge flexibility basin, Agility, Kinetics speed in level trunk, Kinetics speed in level face, Endure Performance, Performance), the researcher used the descriptive survey method.

Calculated using the weight of the medical balance and use a tape measure to the nearest (0.5) cm in addition to stop hours to calculate the performance time test. In addition, Performance test of Agility and test the speed in the level of the head and speed in the stem level, the use of much training ease the year's intricate kinesthetic speed in the level of Cape Verde stem. Use aftermarket funnels for use in the test of agility (Ebada, 2006; Gaurav et al., 2010; Ebada, 2013).

Test the broad jump unchanged (ability), test the resilience of the lap detailed using a tape measure, to test the speed of the kick in the regions and stem the head using hours stop. Much ease of training and the use of hours off in the tests of the kick speed in the regions of Cape Verde stem and testing of Agility and testing carrying performance. The use of aftermarket funnels; in the test of Agility in addition to the use of the gym siren.

Statistical analyses

The statistical analysis SPSS was used to apply formulas statistical by calculating: average, standard deviation, correlation, stepwise regression.

Results

Table 1 shows the arithmetic mean and standard deviation of Growth rates and specific motor abilities of talented junior taekwondo, where the average ranged between (11.64 ± 0.48 yare) age (156.39 ± 21.00 cm) the ability of muscle for members of the research sample.

Table 2 indicates to a number (45) correlation coefficient number (26) positive correlation coefficient increased by 57.78%, and the number (19) negative correlation coefficient increased by 42.22%. There are (16) transactions positive statistically significant at the level of significance (0.01) by 35.55%. There are (1) transactions positive statistically significant at the significance level (0.05) by 2.22%. There are a number (7) a positive correlation coefficient is statistically significant rate of 15.55%. That there is direct correlation relationships between age, ability, motor speed, Endure performance and the degree of the level of performance for talents junior taekwondo.

Table 3 shows that the Flexibility is the primary contributor factor in the prediction of the selection of talented junior taekwondo contribution percentage 28.8%, contributing factor to the second is Endure Performance contribution percentage 15.1%, the ability is the contributing factor to the third contribution percentage 7.8%. While the growth rates are shareholder fourth by contribution of 5.2%, and motor speed is the fifth shareholder contribution rate of 1.1%. Thus become a predictive equation to predict the selection of talented junior taekwondo = 49.835 + Age (-0.389) + Length (0.157) + Weight (-0.188) + Flexibility (-0.359) + Ability (0.081) + Agility (-2.261) + Endure Performance (0.608) + Kinetics speed motor in the level of the trunk (0.586) + Kinetics speed motor in the face level (0.260).

Table 1. Descriptive Statistics for growth rates and specific motor abilities of talents junior taekwondo.

Variable		Mean	Std. Deviation	Minimum	Maximum
Growth rates	Age (yare)	11.64	0.48	11.00	12.00
	Height (cm)	144.06	7.04	124.00	175.00
	Weight (kg.)	36.86	7.51	23.00	79.00
Specific motor abilities	Ability (Broad jump) cm.	156.39	21.00	110.00	465.00
	Hinge flexibility basin cm.	18.35	10.31	0.00	45.00
	Agility (sec.)	11.60	0.66	10.00	20.00
	Kinetics speed in level trunk (n)	10.45	1.46	4.00	18.00
	Kinetics speed in level face (n)	12.05	1.95	1.00	18.00
	Endure Performance (n)	25.15	6.58	0.00	40.00
Performance (mark)		65.50	10.22	30.00	91.00

Table 2. Correlation between Growth rates and specific motor abilities for the selection of talents junior taekwondo.

Variable	Age (yare)	Height (cm)	Weight (kg.)	Ability (Broad jump) (cm)	Hinge flexibility basin (cm)	Agility (sec.)	Kinetics speed in level trunk (n)	Kinetics speed in level face (n)	Endure Performance (n)	Performance (mark)
Age (yare)		.095**	.020	.268**	-.156**	-.227**	-.014	.137**	-.082*	.097**
Height (cm)	.095**		.441**	.024	.045	.019	.089*	.050	-.122**	-.007
Weight (kg.)	.020	.441**		-.049	.131**	.145**	.058	-.070	-.061	-.190**
Ability (Broad jump) (cm)	.268**	.024	-.049		-.217**	-.306**	.140**	.200**	.199**	.394**
Hinge flexibility basin (cm)	-.156**	.045	.131**	-.217**		.232**	-.003	-.278**	-.280**	-.566**
Agility (sec.)	-.227**	.019	.145**	-.306**	.232**		-.046	-.302**	-.193**	-.390**
Kinetics speed in level trunk (n)	-.014	.089*	.058	.140**	-.003	-.046		.367**	.188**	.209**
Kinetics speed in level face (n)	.137**	.050	-.070	.200**	-.278**	-.302**	.367**		.356**	.410**
Endure Performance (n)	-.082*	-.122**	-.061	.199**	-.280**	-.193**	.188**	.356**		.584**
Performance (mark)	.097**	-.007	-.190**	.394**	-.566**	-.390**	.209**	.410**	.584**	

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

Table 3. The contribution percentage for Growth rates and specific motor abilities, as a function to predict the selection of talents junior taekwondo (n=755).

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig. B	Contribution Rate %	Sum Contribution Rate %
		B	Std. Error	Beta				
	Constant	49.835	9.698		5.139	.000		
Growth rates	Age	-.389	.524	-.018	-.742	.458		
	Height	.157	.037	.108	4.216	.000	5.2	5.2
	Weight	-.188	.035	-.138	-5.373	.000		
Flexibility	Hinge flexibility basin	-.359	.025	-.362	-14.530	.000	28.8	
Ability	Broad jump	.081	.012	.167	6.653	.000	7.8	
Agility		-2.261	.390	-.147	-5.801	.000	3.8	56.6
Endure Performance		.608	.040	.391	15.169	.000	15.1	
Kinetics speed	Kinetics speed in level trunk	.586	.174	.084	3.371	.001	1.1	
	Kinetics speed in level face	.260	.144	.050	1.814	.070		

Discussion

The results showed that the rates of growth in the sample for the age phase (11-12) Age Average life expectancy (11.64 yare) the average Height (144.04 cm) the average weight (36.86 kg). This indicates that there is consistency between the length and weight of the sample search (Kromeyer et al., 2001; Battino et al., 2002; Ebada, 2003; Davis & Green, 2009; Ebada, 2013).

The results also showed that specific motor abilities of age phase (11-12 years) the average capacity of this horrid stage ranges (156.39 ±21.00), average detailed flexibility lap (18.35 ±10.31) and the average Agility (11.60. ±0.66) average speed motor in the level of the trunk (10.45 ±1.46) average speed motor in the face level of (12.05 ±1.95) the average endure performance (25.15 ±58.6). This indicates the existence of specific motor abilities of this age phase which needs to develop through the development of training programs for the rehabilitation of those selected personnel physically rehabilitation skillfully, their access to international levels and achieve the achievements at the international level. Taking into account the importance of the growth rates, where the proportion of its contribution to 52%, which is a high rate. Demonstrating the importance in the selection of talented people in taekwondo (Izzat, 1987). It is the results that it became clear that the element of flexibility is the primary contributor to predict the selection of talented junior taekwondo a contribution rate (28.8%) (Mohammad, 2000; Ebada, 2006; Ahmad, 2007).

However, legal amendments in the Rules of the calculation of the points, which include calculate the kick up to the area of the rival the number of points higher than the number of points for the same skill if arrived to stem area (International 2015). It becomes important to possess the minor element of flexibility in the pelvis so that access to the area of the rival to pay the strike to achieve greater points (Ahmad, 2007; Asmaa, 2015).

The study showed that the major contributor Working Group II is performance bear a contribution rate (15.1%) This agrees with (Atsumi et al., 1999; Mohammad, 2000; Ahmad, 2007) that taekwondo player must possess the element of carrying performance because it leads a number of games during the day or even one cannot fulfill this effectively it must possess the element of endure performance.

The study also showed that Ability is the third biggest contributor, 7.9% this agrees with (Mohammad, 2000; Asmaa, 2015). Because of the Taekwondo player needs the Ability to perform kicks from the movement, bungee jumping and repeated jump several times during the tour per each match the conditions of calculating the points to reach as rival calculated from the Force with the speed required to implement them, which indicates the importance of the component on ability taekwondo player.

The study also revealed that of growth rates was the fourth largest contributor by 5.2% growth rates due importance to that of the Taekwondo competes through the Age phase for athletes. As well as the balance and here, it is important to take into account the growth rates to junior taekwondo (Ahmad, 2003; Asmaa, 2015).

The study also showed that the motor speed is the fifth major contributor by 1.1%. although the low percentage of this working group but that its importance was due to the achievement of the points in the matches requires the availability of possible speed to mobility taekwondo player to achieve access points to the face of the rival destroyed the payment of the floor vibrates more than once in periods of very short. This can only be achieved possessing Phenom an appropriate degree of motor speed (Mohammad, 2000; Ahmad, 2007; Asmaa, 2015).

The most important findings of the results that there are five factors affect the selection of talented junior Taekwondo detailed flexibility contribute (28.8%), endure Performance contribute by (15.1%), ability contribute (7.8%), Growth rates (age, length, weight) a contribution rate (5.2%), kinesthetic speed motor (in the level of the trunk - in the face level) (1.1%). Predictable talented selection junior taekwondo through the following equation = 49.835 + Age (-0.389) + Length (0.157) + Weight (-0.188) + Flexibility (-0.359) + Ability (0.081) + Agility (-2.261) + Endure Performance (0.608) + Kinetics speed motor in the level of the trunk (0.586) + Kinetics speed motor in the face level (0.260). And agrees that results of study with (Ahmad, 2003; Ebada, 2006; Asmaa, 2015; Ebada, 2013) where all proved that predictable gender sporting activity levels high sports through the selection on the scientific basis for the specific standards and specifications of physical suitable for the chosen Activity.

Conclusions

The study concluded that there are five factors affect the selection of talented junior Taekwondo detailed flexibility contribute (28.8%), endure Performance contribute by (15.1%), ability contribute (7.8%), Growth rates (age, length, weight) a contribution rate (5.2%), kinesthetic speed motor (in the level of the trunk - in the face level) (1.1%). Predictable talented selection junior taekwondo through the following equation = 49.835 + Age (-0.389) + Length (0.157) + Weight (-0.188) + Flexibility (-0.359) + Ability (0.081) + Agility (-2.261) + Endure Performance (0.608) + Kinetics speed motor in the level of the trunk (0.586) + Kinetics speed motor in the face level (0.260).. These results should be taken into account by the taekwondo Federation and trainers for use as an indicator for selecting talented taekwondo sport.

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