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Determining Grades and Standard Levels for the Most Important Physical and Motor Abilities of Sepak Takraw Juniors in Iraq

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ABSTRACT

(Sepak takraw) is a game that mixes football and volleyball, it is played on a court similar to a badminton court, in which players have the right to play the ball with any part of the body except the arm and hand. The object of the game is to return the ball to the opponent's court and score a point. Since it is a newly emerging game, all aspects related to it must be studied and covered in order to reach the highest levels, and it is known that each game or sporting activity has its own physical and motor capabilities, which is important to determine the level of technical performance, as the game's abilities contribute to mastering the skills. The importance of research in determining standard levels of physical and motor abilities for young Sepak takraw players to help specialists and those in charge of them in a manner that ensures raising the efficiency of these abilities and thus raising the level of performance. The research aims to:

-Identifying the most important physical and motor abilities of Sepak takraw juniors in Iraq.

- Determining standard levels of physical and motor abilities tests for Sepak takraw juniors in Iraq.

The researchers used the descriptive approach in the survey method for its suitability to the problem and objectives of the research. The research community was identified with (50) junior players of the Specialized School of Sepak takraw, and the tests were a tool for research.

The researchers used the appropriate statistical methods to process the data, and the results were as follows: The most important physical and motor abilities needed by the junior Sepak takraw player are (strength characterized by speed, reaction speed, agility, flexibility, compatibility) and after determining the standard levels of their tests, it was found that: in all abilities tests Physical and motor results of the majority of the research sample were between the two levels (average, acceptable) and in light of the results, the researcher made a number of recommendations.

Keywords
standard levels , physical and motor abilities , Sepak takraw , juniors in Iraq.

Introduction

The world is witnessing a rapid and remarkable development in all areas of life and the sports field. It had a large share of this development and was the reason for the emergence of games derived from other games such as Sepak Takraw.

Sepak takraw is a team game that mixes football and volleyball, played on a court similar to badminton, an ancient sport that emerged in the 15th century, native to Southeast Asia, and a popular sport in Thailand, Cambodia, Malaysia, the Philippines and Indonesia.

This sport spread and became popular in Malaysia and Thailand in the early 18th century. Its name is derived from two words, the first (Sepak) which means (to strike), a word circulated in Malaysia, Singapore and Indonesia, and (takraw) which means in Thai (a woven or woven ball). The International Federation was established in 1988 and is known by its acronym (ISTAF).

The game (Sepak takraw) is played by two teams, the team consists of three players, one of the three players is called (tekong) and he is the player in the back of the field and he is the player responsible for serving. Standing in front is a right front player on the right side and a left front player on the left side. One of the players is responsible for preparing the ball for the serving player (Tekong).

Undoubtedly, each game has its own peculiarity and basic rules that distinguish it from the rest of the other games, and this applies to the game Sepak takraw. Although it is derived from several games, it has its own peculiarity, such as the way of playing and how to perform the skills.

Since it is a newly emerging game, all aspects related to it must be studied and covered in order to assist coaches and

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specialists in selecting players, as well as in the process of developing training curricula and achieving optimal performance in external participation.

Hence the need to follow the sound scientific foundations to know about everything related to this game. Tests and measurement are one of the objective methods that have a great role in the field of diagnosis and classification, whereby we can reveal a lot, such as identifying the real level of the players and determining the progress of the training curricula as well. The processes of selection and prediction are the scientific and honest method.

Tests are an important research tool that helps us provide raw scores about any variable, but the degree extracted from the application of the tests has no significance unless we refer to a standard that determines the meaning of the scores, so it tells us about the person's position for the group and what he puts to his peers in the sample [1] .And to give meaning to these scores, they must be converted into standard scores, as Muhammad Hassan Allawi and Muhammad Nasr al-Din Radwan point out that "standards are information that show us how individuals actually perform, while levels are information that shows us what the individual should perform" [2].

Every game or sports activity has special physical and motor abilities, which is important to determine the level of technical performance of skills, and it represents a scientific step to reach the best results, as the game-specific abilities contribute to mastering skills and their development and development are among the main requirements to reach the highest levels.

From the foregoing, the importance of research appears in determining standard degrees and levels for the most important physical and motor abilities of young Sepak takraw players to help specialists and those in charge of them focus on the most important capabilities of the game in a way that ensures raising the efficiency of these abilities and thus raising the level of performance.

Methods& Materials

The researchers used the tests shown in Table 1, after looking at the sources and references related to the topic and sample of the research and preparing a questionnaire that includes physical and motor abilities and presenting it to 15 experts in the specializations (testing, measurement, sports training and football) and after emptying the form data, the capabilities were relied on.

The following tools were also used (weighing scale , stopwatch , whistle , tape measure , earthy spry dyes).

Table 1:Shows the relative importance and percentage of candidate abilities

S.No.	Abilities	Tests
1	The speed characteristic of the legs	Stand up and jump test from long sitting 30 seconds
2	reaction speed	Nelson motor response test
3	agility	Lateral Bounce Run Between Three Lines The distance between one line and another is 4 feet
4	flexibility	Side down touch for 30 seconds
5	Compatibility	numbered circuit test

Methodology

The researchers used the descriptive approach in the survey method for its relevance to the nature of the research problem and its objectives. The survey method "seeks to collect data from individuals and societies in an attempt to determine the current state of society in a particular variable or variables" [3].

The research community was determined by the Sepak Takraw players, the junior category, aged 13-15 years in Iraq, which numbered (50) youngsters. The entire community of origin, which makes the research more accurate and gives reliable results with its validity and objectivity.

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length, weight and age were measured for the purpose of confirming homogeneity among the sample members, as shown in Table (2).

Table 2: It shows the homogeneity of the research sample members in the variables (weight - length - age)

Variables	Unit of measure	mean	median	standard deviation	skew modulus	distribution
Weight	kg	51.48	51.7	4.184	0.157-	equinoctial
length	cm	162.8	161	6.726	0.802	equinoctial
age	year	14.6	14.5	0.487	0.616	equinoctial

Data Analysis

After conducting the exploratory experiment, the researchers, at 3:00 noon on Friday, 7/5/2021, applied the tests to the research sample, which numbered (45) emerging, through the contact of the assistant work team with the sample members in explaining how to perform the tests, the number of attempts and their organization In groups to facilitate the performance and registration process.
After unpacking the data, the raw scores for the test results were obtained by processing them and converting them into final scores , by Using the following statistical methods: [percentage , mean , standard deviation , skew modulus , Pearson's simple correlation coefficient , Standard score sequentially].

After extracting the arithmetic means and standard deviations, the researchers used the sequence method in setting the standard tables, using the relationship to find the standard degree: The modified standard degree (T-scale) = the arithmetic mean ± the fixed amount in the sequence, which is its mean score (50) and its standard deviation (10) [4]. The constant value represents the number added or subtracted to the arithmetic mean for each test.
This method is one of the best methods used to find the standard scores. The following is an explanation of the steps of this method [5] :
The first step: calculating the mean and standard deviation of the examined tests.
The second step: Divide the standard deviation by 10 to get the constant.
The third step: preparing tables for the modified standard scores, which extend from (80-20). The arithmetic mean score is placed against the number (50) in the table.
Fourth step: Add the values extracted from the second step, which is the fixed amount, to the arithmetic mean and to all subsequent values up to (80), and then subtract the same value from the arithmetic mean and sequentially until the number (20) Plural.
The results of Table (3) indicate that the values of the skew coefficient were limited to (±1), which means that the scores of the sample members are distributed in a moderate manner, and this is what the researcher wanted to verify because one of the conditions for building standards is the normal distribution of the data in the sense of finding the standard formula so that the arithmetic mean is equal to (zero) and the amount of variance is equal to (1) at this distribution. Accordingly, the necessary standard tables were built, as shown in Table (4).

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Table3 :It shows the arithmetic means, standard deviations, and skewness coefficient values for the tested tests

Abilities	Tests	Unit of measure	mean	median	standard deviation	skew modulus	distribution
The speed characteristic of the legs	Stand up and jump test from long sitting 30 seconds	Number	9,22	9	1,362	0,484	equinoctial
reaction speed	Nelson motor response test	a second	1.70	1.63	0.371	0.566	equinoctial
agility	Lateral Bounce Run Between Three Lines The distance between one line and another is 4 feet	Number	9,28	9	0,856	0.981	equinoctial
flexibility	Side down touch for 30 seconds	Number	17,46	17,5	1,472	0,081	equinoctial
Compatibility	numbered circuit test	a second	9.85	9.50	1.496	0.701	equinoctial

Table 4: Shows the raw scores corresponding to the standard scores of the examined tests

Standard score	The speed characteristic	reaction speed	agility	flexibility	Compatibility	Standard score	The speed characteristic	reaction speed	agility	flexibility	Compatibility
80	13,3	0.587	11,83	21,87	5.362	49	9,084	1.7371	9,195	17,313	9.9996
79	13,164	0.6241	11,745	21,723	5.5116	48	8,948	1.7742	9,11	17,166	10.1492
78	13,028	0.6612	11,66	21,576	5.6612	47	8,812	1.8113	9,025	17,019	10.2988
77	12,892	0.6983	11,575	21,429	5.8108	46	8,676	1.8484	8,94	16,872	10.4484
76	12,756	0.7354	11,49	21,212	5.9604	45	8,54	1.8855	8,855	16.725	10.598
75	12,62	0.7725	11,405	21,135	6.11	44	8,404	1.9226	8,77	16,578	10.7476
74	12,484	0.8096	11,32	20,988	6.2596	43	8,268	1.9597	8,685	16,431	10.8972
73	12,348	0.8467	11,235	20.841	6.4092	42	8,132	1.9968	8,6	16,284	11.0468
72	12,212	0.8838	11,15	20.694	6.5588	41	7,996	2.0339	8,515	16,137	11.1964
71	12,076	0.9209	11,065	20,547	6.7084	40	7,86	2.071	8,43	15,99	11.346
70	11,94	0.958	10,98	20,4	6.858	39	7,724	2.1081	8,345	15,843	11.4956
69	11,804	0.9951	10,895	20,253	7.0076	38	7,588	2.1452	8,26	15,696	11.6452
68	11,668	1.0322	10,81	20,106	7.1572	37	7,452	2.1823	8,175	15,549	11.7948
67	11,532	1.0693	10,725	19,959	7.3068	36	7,316	2.2194	8,09	15,402	11.9444
66	11,396	1.1964	10,46	19,812	7.4564	35	7,18	2.2565	8,005	15,255	12.094
65	11,26	1.1435	10,555	19,665	7.606	34	7,044	2.2936	7،92	15,108	12.2436
64	11,124	1.1806	10,47	19,518	7.7556	33	6,908	2.3307	7,835	14,961	12.3932
63	10,988	1.2177	10,385	19,371	7.9052	32	6,772	2.3678	7,75	14,814	12.5428

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62	10,823	1.2548	10,3	19,224	8.0548	31	6,636	2.4049	7,665	14,667	12.6924
61	10,716	1.2919	10,215	19,077	8.2044	30	6,5	2.442	7,58	14,52	12.842
60	10,08	1.329	10,13	18,93	8.354	29	6,364	2.4791	7,495	14,373	12.9916
59	10.444	1.3661	10,045	18,783	8.5036	28	6,228	2.5162	7,41	14,226	13.1412
58	10,308	1.4032	9,96	18,636	8.6532	27	6,092	2.5533	7,325	14,079	13.2908
57	10,172	1.4403	9,875	18.489	8.8028	26	5,956	2.5904	7,24	13,932	13.4404
56	10,036	1.4774	9,79	18,342	8.9524	25	5,82	2.6275	7,155	13,932	13.59
55	9,9	1.5145	9,705	18,195	9.102	24	5,684	2.6646	7,07	13,638	13.7396
54	9,764	1.5516	9,62	18,048	9.2516	23	5,548	2.7017	6,985	13,491	13.8892
53	9,628	1.5887	9,535	17,901	9.4012	22	5,412	2.7388	6,9	13,344	14.0388
52	9,492	1.6258	9,45	17,754	9.5508	21	5,276	2.7759	6,815	13,197	14.1884
51	9,356	1.6629	9,365	17,607	9.7004	20	5,14	2.813	6,73	13,05	14.338
50	9,22	1.70	9,28	17,46	9.85						

After the raw scores for all tests have been converted into standard scores, and to complete the stages of work, the standard levels must be used, which represents the goal of the research. In order for the researchers to be able to translate the results of the tests that the members of the research sample underwent and convert them into objective values, they derive the ideal standard levels that they identified by dividing the range into (6 levels) on the base of the curve (Caustic curve) and for each level one standard deviation, which is respectively (Very Good) , good, average, acceptable, weak, very weak) and table (5) shows a detailed presentation of the standard levels of the examined tests.

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Table 5: The raw scores show their limits and ratios corresponding to the standard levels in the investigated variables achieved by the research sample

Abilities	Tests	Standard levels, their limits and proportions											
		Very good		Good		Average		Acceptable		Weak		Very weak	
		80 -71		70 - 61		60 - 51		50 - 41		40 - 31		30 – 21	
		% 2.145		% 13.585		% 34.135		% 34.135		% 13.585		% 2.145	
The speed characteristic	Stand up and jump test from long sitting 30 seconds	12.076-13.3		10.716-11.94		9.356-10.08		7.996-9.22		6.636-7.86		5.276-6.5	
		No	%	No	%	No	%	No.	%	No.	%	No	%
		2	%4.44	9	%20	20	%44.44	13	%28.88	1	%2.22	0	%0
reaction speed	Nelson motor response test	9.9209-0.587		1.2919-0.958		1.6629-1.329		2.0339-1.70		2.4049-2.071		2.7759-2.442	
		No	%	No	%	No	%	No.	%	No.	%	No	%
		1	%2.22	6	%13.33	22	%48.88	14	%31.11	2	%4.44	0	%0
agility	Lateral Bounce Run Between Three Lines The distance between one line and another is 4 feet	11.065-11.83		10.215-10.98		9.365-10.13		8.515-9.28		7.665-8.43		6.815-7.58	
		No	%	No	%	No	%	No.	%	No	%	No	%
		2	%4.44	5	%11.11	19	%42.22	16	%35.55	3	%6.66	0	%0
flexibility	Side down touch for 30 seconds	20.547-21.87		19.077-20.4		17.607-18.93		16.137-17.46		14.667-15.99		13.197-14.52	
		No	%	No	%	No	%	No.	%	No	%	No	%
		3	%6.66	7	%15.5	14	%31.11	18	%40	2	%4.44	1	%2.22
Compatibility	numbered circuit test	6.7084-5.362		8.2044-6.858		9.7004-8.354		11.1964-9.85		12.6924-11.346		14.1884-12.842	
		No	%	No	%	No	%	No	%	No	%	No.	%
		0	%0	4	%8.88	15	%33.3	19	%42.22	4	%8.88	3	%6.66

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Results

The researchers found that the abilities (strength characterized by speed, reaction speed, agility, flexibility, compatibility) are the most important abilities needed by the Sepak takraw, And that the largest percentages were for the sample members in all the tests within the levels (average, acceptable, good).In the tests (strength characterized by speed, reaction speed, agility) the largest percentage of the sample members was at the (average level) , while in the tests (flexibility, compatibility) it was The largest percentage at the (level acceptable)

Discussions

The researchers attribute the results of the strength test characterized by speed to the fact that despite the fact that strength is a genetic trait, it can only be developed by training according to scientific foundations [6].

The percentage of the agility test can be explained by the fact that agility, is a complex ability to which speed, compatibility, performance accuracy and balance are related [7]. This explains why a small percentage of the sample members achieved a good level (11.11%) in this test, which is a good percentage for Beginners and unrecognized game before.

As for the results of the flexibility test, the researchers attribute this to the fact that the young person at this age has a natural flexibility that qualifies him to perform, and this explains what was stated in the results of the research sample and within the two levels (medium, acceptable), which makes it close to the distribution of the natural curve. But you should not rely on the characteristics of the age group because it leads to a lack of that flexibility “The lack of movement of the joints through physical activity and to the appropriate extent leads to a decrease in flexibility in those joints” [7] . Also, relying on skill performance alone to improve this trait does not provide the range of movement necessary for improvement and permanent repetition of its development, as it is known that flexibility is an ability that is gained through training and exercise [8].

The researchers attribute the results of the research in general to several reasons, including:

-The fact that entering the game is recent to Iraq and that the training age of all players is small, that is, does not exceed the period that works to develop physical abilities.

-The dependence of the training units for the players on the skill performance only, and this leads, as Hanafi Mahmoud) points out that “focusing on the skill performance without the physical attributes leads to a decrease in the sense of place and the accuracy of the properties of the ball” [9].

-The absence of codified programs based on scientific foundations and principles for the development and improvement of the physical elements that take into account the characteristics of the stages of growth for this age group, as it is known that “the standardized and organized training programs according to scientific foundations work on the development of the physical and skill level of the players” [10].

Conclusion

In general, the findings of this study showed thatThe juniors players in the Sepak Takraw game showed average results in tests of physical and motor abilities relative to the training age of the game in Iraq, and this is a good thing. By focusing on the game in the future, we will witness a high level.

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Limitations and Future Studies

Adopting the results of the research in preparing training programs for physical fitness according to scientific bases that take into account the characteristics of the age group and the specificity of the game, the use of various training methods and means and knowledge of the appropriate ones and their adoption, encouraging studies on the Sepak Takraw game in order to learn more about the nature of this game and reach the players to the highest levels.

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