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Determining the grades and standard levels of some mental skills as an indicator for the selection of young volleyball players

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ABSTRACT

The objective of this study was to determine the grades and standard levels of some mental skills as an indicator for the selection of young volleyball players. The researchers used the descriptive approach with the survey method. The sample was composed of 129 young volleyball players of Iraqi clubs. The researchers identified the scale and procedures and applied it to the research sample. Analyzing the data, it was found that most of the volleyball players of the sample had an average level of mental skills. Considering this, it is highly recommendable to accompany physical training programs with psychological and tactical programs, in order to improve not only physical skills but also mental skills.

KEYWORDS

Standard levels; mental skills; young players; volleyball

1. INTRODUCTION

The development of scientific fields in all disciplines, including sports, has been very important in last years. Sport is considered an example of the development of the peoples, so sports sciences have focused on the adequate preparation of athletes, in order to obtain the best achievements and reach the global podiums.

One of these sports is volleyball, which is well accepted in the world, as it has urged great interest in recent times, which reflected positively on its development and the diversity of training curricula that alternated various mental, physical, skill, tactical and psychological aspects. It is also very important to help coaches develop appropriate training plans for the purpose of preparing athletes optimally to reach the best levels and sports achievements.

The selection of young volleyball players is not limited to personal experience, chance and self-evaluation of coaches, but also needs to follow sound scientific methods and rely on testing and

measurement to select them and achieve the required levels while saving time and effort. Since the game of volleyball needs from its practitioners mental variables at a high level, and according to specific capabilities, coaches and workers in this field must choose players according to specific criteria that qualify them to achieve mental performance. The mental visualization is a tool for visualizing the movement and the surroundings of performance, which is experienced when the individual athlete performs it physically (Schmidt, 2000).

From here it is necessary to provide certain levels of mental skills that undoubtedly help the players to behave well at skill and tactical level, and on the other hand we see that the reality of the situation suffered by our players, especially in the aspect of mental preparation is weakness and lack of interest and lack of scientific knowledge by those in charge of the training process, as most coaches focus their attention on the physical and skill aspects without any consideration of the mental aspects of the players. Knowing the keys to mental skills that are related to performance serves as a guide for developing intervention programmes (Tenenbaum & Eklund, 2007).

Therefore, the research problem of the present study is to identify the grades and levels of some mental skills as an indicator for the selection of young volleyball players. The specific research objective was to apply a mental perception scale to young volleyball players, and to determine the grades and standard levels of some mental skills as an indicator for the selection of young volleyball players.

2. METHODS

2.1. Design and participants

The researchers adopted the descriptive approach with the survey method as the most appropriate approach to the nature of the current research, as the descriptive approach aims to identify the conditions and relationships between reality and appearance, and aims to collect data from members of society in an attempt to determine the current state of society in many variables (Fawzi et al., 2008).

The research sample included 129 young volleyball players (17-18 years old) in the season 2021-2022. The players of the sample played in the following Iraqi clubs: Ghaaz Aljanub, Albahriu, Albishmarka, Alsinaea, Alshurta, Alhabaania, Alshatra, Almadrasat Altakhasusiat Aljabayish, Naft Maysan, Alrumaytha.

2.2. Procedures

The researchers identified the mental variables to be studied according to scientific literature: the ability to visualize, psychological preparation, self-confidence, dealing with anxiety, the ability to focus, the ability to relax, and motivation. The scale chosen by the authors was the Mental Skills Scale (Bahi, 2004). This scale was presented to a group of experts and specialists, and adapted to the research sample of young volleyball players. The scale has a total of 24 items, which are distributed in 6 dimensions, with 4 items in each dimension. The six dimensions of the scale are: ability to visualize, ability to relax, ability to focus attention, ability to cope with anxiety, self-assurance, and motivation.

The researchers conducted the first exploratory experiment on a sample of 50 players, and the scale was applied. The purpose was to know the clarity of the instructions, know his suitability for the sample members, determine the time it takes, and find the scientific foundations (honesty, stability, and objectivity). The researchers used virtual validity by presenting the scale to experts and specialists, and through them the researchers got the sincerity of the scale. To verify the discriminatory ability of the dimensions and items, the value of T must be a function between the results of the upper and lower group of the statistical analysis sample on each item of the dimension (Hussein., 2008), and thus the degrees of each item were arranged in ascending order from the lowest degree to the highest degree. After processing the results statistically, it was found that the items are valid because the p values were smaller than the significance level of 0.05 (Table 1).

Table 1. Discriminating power of the scale

	Items	Upper levels		Lower levels		T	p
		S	E	S	E		
Ability to visualize							
1	I can visualize the skills in my imagination clearly	5.5714	0.51355	2.1429	0.77033	13.279	0.000
2	I can imagine my performance of artistic movements in my imagination without actually performing them	6.0000	0.00000	2.7857	0.80178	15	0.000
3	It is difficult for me to imagine in my imagination what I will do from the motor performance of the required skill	6.0000	0.00000	2.7857	0.89258	13.474	0.000
4	I always visualize what I'm going to do in the game for skills	6.0000	0.00000	2.8571	0.86444	13.604	0.000

Ability to relax							
5	I know very well how to relax at sensitive times when I perform in a match	5.9286	0.26726	2.1429	0,66299	17.298	0.000
6	My muscles are tense before I participate in the game	6.0000	0.00000	2.5714	0.51355	21.697	0.000
7	It's easy for me to be able to relax before signing up for the game.	6.0000	0.00000	3.1429	0.77033	13.878	0.000
8	One of my obvious qualities is that I was able to calm myself down quickly before I played a game.	6.0000	0.00000	3.4286	0.75593	12.728	0.000
Ability to focus attention							
9	Many thoughts go through my mind while participating in the match and being busy with performance.	6.0000	.00000	1.0000	.00000a	69	0.000
10	It bothers me that I can't focus my attention at sensitive times in the game.	6.0000	0.00000	1.7857	0.42582	37.031	0.000
11	My problem is that I lose the ability to focus my attention at some times of the game.	6.0000	0.00000	2.9286	0.91687	12.534	0.000
12	The events and noise that occur in the match help distract me	6.0000	0.00000	2.8571	1.02711	11.449	0.000
Ability to cope with anxiety							
13	I often feel like I'm failing to implement plans in a game.	6.0000	0.00000	2.0714	0.82874	17.737	0.000
14	I'm afraid of not being good at applying skills well in the game.	5.5000	0.51887	1.7143	0.46881	17.347	0.000
15	When I play in a game, I get anxious.	6.0000	0.00000	1.7857	0.69929	20.706	0.000
16	I get annoyed when I make some mistakes while doing my job in the game.	6.0000	0.00000	2.3571	1.00821	13.519	0.000
Self-assurance							
17	I have confidence in myself to participate in matches	5.8571	0.36314	1.7143	0.46881	22.574	0.000
18	My self-confidence decreases whenever the result of the match is not good	5.7857	0.42582	1.6429	0.49725	21.283	0.000
19	Throughout the game I can maintain a high degree of self-confidence	6.0000	0.00000	2.3571	0.74495	16.885	0.000

20	I suffer from my lack of confidence in performing some skills in matches	5.7143	0.46881	1.3571	0.49725	18.933	0.000
Motivation							
21	I am prepared to do my best before I participate in the match	5.6429	0.49725	1.7143	0.61125	17.667	0.000
22	I always prefer to subscribe to the application of effective plans in the game	5.7143	0.46881	1.5000	0.51887	20.867	0.000
23	I can always get excited by myself during the game.	5.5714	0.51355	1.8571	0.77033	14.434	0.000
24	I always feel like I'm doing my best throughout the game.	5.3571	1.74495	1.5714	0.51355	13.432	0.000

Regarding internal consistency, Table 2 shows the correlation between the items and the total score of the mental skills scale.

Table 2. Correlation between the items and the total score of the mental skills scale

Item	Simple correlation coefficient	p	Item	Simple correlation coefficient	p
1	.862**	0.000	13	.843**	0.000
2	.839**	0.000	14	.814**	0.000
3	.852**	0.000	15	.866**	0.000
4	.873**	0.000	16	.843**	0.000
5	.855**	0.000	17	.540**	0.000
6	.878**	0.000	18	.417**	0.000
7	.867**	0.000	19	.601**	0.000
8	.840**	0.000	20	.689**	0.000
9	.772**	0.000	21	.528**	0.000
10	.840**	0.000	22	.556**	0.000
11	.826**	0.000	23	.503**	0.000
12	.867**	0.000	24	.467**	0.000

Due to the diversity of the items of the scale, the researchers extracted the correlation between the items and the dimensions of the scale, as it is shown in Table 3.

Table 3. Correlation between the items and the dimensions of the mental skills scale

Item	Simple correlation coefficient	p
Ability to visualize		
1	.406**	0.000
2	.330*	0.000
3	.421**	0.000
4	.486**	0.000
Ability to relax		
1	.535**	0.000
2	.394**	0.000
3	.365**	0.000
4	.481**	0.000
Ability to focus attention		
1	.397**	0.000
2	.447**	0.000
3	.407**	0.000
4	.432**	0.000
Ability to cope with anxiety		
1	.493**	0.000
2	.531**	0.000
3	.529**	0.000
4	.478**	0.000
Self-assurance		
1	.460**	0.000
2	.459**	0.000
3	.485**	0.000
4	.470**	0.000
Motivation		
1	.510**	0.000
2	.486**	0.000
3	.410**	0.000
4	.412**	0.000

Table 4 presents the correlation between the dimensions of the scale and the total score of the mental skills scale

Table 4. Correlation between the dimensions and the total score of the mental skills scale

Dimension	Simple correlation coefficient	p
Ability to visualize	.777**	0.000
Ability to relax	.762**	0.000
Ability to focus attention	.759**	0.000
Ability to cope with anxiety	.733**	0.000
Self-assurance	.599**	0.000
Motivation	.799**	0.000

The researchers extracted the stability of the scale using the method of half fractionation and Alpha Cronbach" (Ibrahim, 2001). The correlation coefficient was 0.558, which represents half of the scale, and then the stability of the scale as a whole was found using the Spearman-Brown equation because of the scale number of individual items, which amounted to 0.654. Also, the researchers extracted the Cronbach's alpha coefficient based on the data of the exploratory experiment, and its value was 0.669, which is a high stability coefficient. The objectivity of the scale was confirmed by a number of specialists, and the main experiment was conducted on the research sample, which consisted of 129 young volleyball players of Iraqi clubs.

2.3. Statistical analyses

The statistical package (SPSS) version 23.0 was utilized for processing the statistical data. This research employed the following statistical methods: arithmetic mean, standard deviation, percentage, simple correlation coefficient (Pearson), adjusted standard score and T test for independent samples. For the present study, statistical significance was set at $p < 0.05$.

3. RESULTS

After applying the scale, we got a degree that represented the respondents' answer to the items of the scale, as the degree of each person's answer represents a quantitative description, and this is called the raw score. In order for the raw score to have significance and meaning, it must be converted into a standard score, as standard scores are one of the best forms for converting raw scores, which are increasingly used as standards in modern tests (Abu Hatab, 2008).

Table 5. Arithmetic means, standard deviations and torsion coefficient of the mental skills scale

Dimension	Arithmetic Mean	Standard Deviation	Torsion Coefficient
Ability to visualize	18.2481	2.50634	-.919
Ability to relax	17.2868	2.53166	-.741
Ability to focus attention	15.7132	2.81234	-.848
Ability to cope with anxiety	16.9767	2.83247	-.848
Self-assurance	16.5391	2.71160	-.377
Motivation	15.0000	2.78107	-.062

Tables 6-11 show the raw grades, standard grades, and modified standard grades of the six dimensions of the scale: ability to visualize (Table 6), ability to relax (Table 7), ability to focus attention (Table 8), ability to cope with anxiety (Table 9), self-assurance (Table 10), and motivation (Table 11).

Table 6. Raw Grades, Standard Grades, and Modified Standard Grades. Dimension: Ability to visualize

	Raw Grades	Standard Grades (Z)	Modified Standard Grades (T)	Repetition
1	10	-3.29088	17.09	1
2	11	-2.89189	21.08	2
3	12	-2.4929	25.07	3
4	14	-1.69493	33.05	4
5	15	-1.29594	37.04	7
6	16	-0.89695	41.03	10
7	17	-0.49796	45.02	11
8	18	-0.09897	49.01	21
9	19	0.30001	53	29
10	20	0.699	56.99	22
11	21	1.09799	60.98	12
12	22	1.49698	64.97	4
13	23	1.89597	68.96	3

Table 7. Raw Grades, Standard Grades, and Modified Standard Grades. Dimension: Ability to relax

	Raw Grades	Standard Grades (Z)	Modified Standard Grades (T)	Repetition
1	10	-2.87828	21.22	5
2	11	-2.48329	25.17	2
3	12	-2.08829	29.12	8
4	14	-1.29829	37.02	2
5	16	-0.50829	44.92	13
6	17	-0.11329	48.87	15
7	18	0.2817	52.82	36
8	19	0.6767	56.77	37
9	20	1.0717	60.72	11

Table 8. Raw Grades, Standard Grades, and Modified Standard Grades. Dimension: Ability to focus attention

	Raw Grades	Standard Grades (Z)	Modified Standard Grades (T)	Repetition
1	10	-2.03147	29.69	7
2	11	-1.67589	33.24	2
3	12	-1.32031	36.8	11
4	13	-0.96474	40.35	9
5	14	-0.60916	43.91	11
6	15	-0.25359	47.46	20
7	16	0.10199	51.02	16
8	17	0.45756	54.58	17
9	18	0.81314	58.13	13
10	19	1.16871	61.69	12
11	20	1.52429	65.24	7
12	22	2.23544	72.35	4

Table 9. Raw Grades, Standard Grades, and Modified Standard Grades. Dimension: Ability to cope with anxiety

	Raw Grades	Standard Grades (Z)	Modified Standard Grades (T)	Repetition
1	10	-2.46313	25.37	2
2	11	-2.11008	28.9	8
3	12	-1.75703	32.43	2
4	13	-1.40398	35.96	8
5	14	-1.05094	39.49	7
6	15	-0.69789	43.02	11
7	16	-0.34484	46.55	5
8	17	0.00821	50.08	15
9	18	0.36126	53.61	7
10	19	0.71431	57.14	57
11	20	1.06736	60.67	2
12	21	1.4204	64.2	3
13	22	1.77345	67.73	2

Table 10. Raw Grades, Standard Grades, and Modified Standard Grades. Dimension: Self-assurance

	Raw Grades	Standard Grades (Z)	Modified Standard Grades (T)	Repetition
1	10	-2.26103	27.39	2
2	11	-1.91088	30.89	2
3	12	-1.56074	34.39	6
4	13	-1.21059	37.89	13
5	14	-0.86044	41.4	7
6	15	-0.51029	44.9	17
7	16	-0.16015	48.4	15
8	17	0.19	51.9	10
9	18	0.54015	55.4	7
10	19	0.8903	58.9	41
11	20	1.24045	62.4	4

12	22	1.94074	69.41	5

Table 11. Raw Grades, Standard Grades, and Modified Standard Grades. Dimension: Motivation

	Raw Grades	Standard Grades (Z)	Modified Standard Grades (T)	Repetition
1	10	-1.79787	32.02	10
2	11	-1.43829	35.62	8
3	12	-1.07872	39.21	9
4	13	-0.71915	42.81	10
5	14	-0.35957	46.4	17
6	15	0	50	13
7	16	0.35957	53.6	23
8	17	0.71915	57.19	15
9	18	1.07872	60.79	13
10	19	1.43829	64.38	4
11	20	1.79787	67.98	5
12	22	2.51701	75.17	2

Table 12 shows the levels and standard ratios used in this research, and Table 13 presents the sample levels in the six mental skills dimensions.

Table 12. Levels and standard ratios used in the research

Standard Levels	Very Good	Good	Average	Acceptable	Poor	Very poor
Standard Ratios	2.14%	2.14%	13.59%	34.13%	34.13%	13.59%

Table 13. Sample levels in the six mental skills dimensions

Ability to visualize	%	Ability to relax	%	Ability to focus attention	%
24 and above: Very Good	Zero	23 and above: Very Good	Zero	22 and above: Very Good	3.100
23-21: Good	14.72	22-20: Good	8.52	21-19: Good	14.72
20-18: Average	39.52	19-17: Average	56.58	18-16: Average	35.56
17-15: Acceptable	32.55	18-16: Acceptable	21.70	15-13: Acceptable	31.00
14-12: Poor	8.52	15-13: Poor	1.55	11-9: Poor	10.01
11-Below: Very Poor	4.65	11-Below: Very Poor	11.62	8-Below: Very Poor	5.42
Ability to cope with anxiety	**%**	**Self-assurance**	**%**	**Motivation**	**%**
23 and above: Very Good	Zero	23 and above: Very Good	Zero	22 and above: Very Good	1.55
22-19: Good	5.42	22-19: Good	6.98	21-18: Good	17.05
18-15: Average	61.24	18-15: Average	44.96	14-17: Average	39.53
14-11: Acceptable	12.40	14-11: Acceptable	30.23	10-13: Acceptable	20.93
10-8: Poor	13.17	10-8: Poor	16.27	6-9: Poor	20.93
7-Below: Very Poor	7.75	7-Below: Very Poor	1.55	5-Below: Very Poor	Zero

4. DISCUSSION

Most of the volleyball players of the sample had an average level of mental skills. The researchers attribute this to the fact that the participants were young and still need more time to gain experience and maturity, face training and competitive situations and learn each time from these situations. Young volleyball players are living a stage of acquisition in all areas of the game and life in general, so it requires them to visualize things that happen to them in the future, as well as their performance within the game and draw a picture of skills, plans and other requirements of the game, and this requires them to always be embodied for situations that may face in the game and use their abilities to visualize and relax, so that they can make the best decision every time.

Visualization is the embodiment of previous or never-before-occurring situations and experiences in the mind, and the player embodies a certain competitive or training situation in the mind, while linking this situation to the feelings and emotions that can occur (Hammad, 2001).

The visualization is used at multiple times, each of which has its benefits. Before the exercise, the player visualizes the skills and situations that he/she expects to occur, but after the exercise, he/she reviews them in order to compare his/her performance with the optimal performance and thus avoid mistakes. Many athletes fail to achieve their best levels of performance because of the nervous tension and anxiety that comes with participating in important competitions, which leads to contraction of all the muscles of the body rather than the contraction of the muscles involved in the performance of the skill only. The athlete's ability to relax and keep nerves calm is very important in order to maintain an optimal level of emotional arousal (Rateb, 1997).

As for the ability to pay attention, the results shown by the sample were somewhat compatible with the training age and age group, as well as that this dimension is related to the dimension of the ability to resist anxiety, and this requires the player to focus on what is going on around him/her and what to do for accomplishing the task required. The player must practice maintaining concentration at a high level because it is a prerequisite for playing at a high level. Athletes differ in the extent and intensity of concentration that can have during a game or race. Therefore, the coach and athlete should plan the training, as the training begins on difficult assignments early in the training unit and there seems to be a lack of consideration of these aspects when playing.

As for motivation and self-confidence, Chamoun (1996) pointed out that the development of psychological skills, which are relaxation, concentration of attention, mental perception and mental recovery, must go hand in hand with the development of elements of physical fitness through long-

term programs, and should be focused on the basic skills of various sports activities. One of the necessary dimensions in the development of mental skills is to recognize the strengths and weaknesses and observe their development and further division, and both the coach and the player must be convinced that such mental skills need continuous training until they reach the level at which they can be employed in competitive situations (Chamoun, 1996).

Self-confidence and motivation are always linked to several things, including the desired goal, winning and losing, physical efficiency and vitality to play, all these things support each other, not to mention the age stage, which may need high confidence in order to achieve its goals, and if these things and ingredients are invested, it will affect the psychological state of the player, as self-confidence is the key to motivation. Each sports activity has its own psychological characteristics that are unique to other sports activities in terms of the nature of motor skills and its physical requirements, in addition to what this activity requires of mental processes, and emotional features that distinguish the practitioners of this activity from others. In the case of volleyball, it is a game based primarily on the skill of the player, because it is a game of one touch for each player and this generates high pressure on them.

5. CONCLUSIONS

Most of the volleyball players of the sample had an average level of mental skills. Considering this, it is highly recommendable to accompany physical training programs with psychological and tactical programs, in order to improve not only physical skills but also mental skills.

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CONFLICTS OF INTEREST

The authors declare no conflict of interest.

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