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Standardizing creative thinking scale and its relationship with team cooperation of elite league volleyball players

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Abstract

The research aims to codify the scale creative thinking players Elite League B Volleyball for the year 2018 - 201 9 , as I use the descriptive survey style to fit in solving the problem of research, have been identified sample purposively, and represented my players clubs participating in the Elite League, totaling (70) A player distributed among (5) clubs, and the sample of the exploratory experiment included (14) players representing (Al- Koot Club) , As applied standard on 47 players in order to determine the validity of the scale and find a scientific basis for the measure, have been extracted grading standard and levels on the main sample amounting to 70 players, plus a sample experiment reconnaissance. we reach the following conclusions: legalization of creative thinking scale There is a clear discrepancy in the levels of players by comparing the standard scores achieved with the levels of normal distribution, and the recommendations were to use the scale of creative thinking in volleyball to determine the level of the mental capacity of the players, and to apply the scale on the players to determine the level of creative thinking for them.
Keywords: *Creative Thinking - Elite League Players - Volleyball*

Introduction

Creative thinking in sports in general and in the game of volleyball in particular is one of the important pillars that coaches seek to develop within theoretical and practical applications with the aim of improving the general ability of sports performance. (**Hardan , 2008**), and the aim of the research is to codify the scale of creative thinking for advanced volleyball players for the Elite League M and 2018-2019 , as well as to know the relationship between creative thinking and team cohesion among Elite Volleyball League players. (**Emad, 2007**)

Literature review

Creative thinking is a mental activity based on remembering and analyzing information and finding intellectual solutions as soon as possible to the creatively and creatively facing situation, so the player's information and knowledge whenever it is developed and well prepared, it becomes easier for him to choose the appropriate and accurate response to the facing situation (**Ahmed, 2007**), especially since the game of volleyball is variable rhythm, and this requires intellectual creativity associated with the activity of the mental athlete, taking into account the speed of thinking in a manner consistent with the requirements of each case, and in a form that reflects the intellectual creativity of movement, in addition to that cooperation and harmony between team members to reach the implementation of skill Time sensitive high, (**Costa, 1997**) Therefore, following up on the mental aspect has become important to stand on the level of development taking place, in addition to the importance of the psychological aspect represented by cooperation and harmony between members of the team, which contributes to achieving positive results, and this requires standardized measures in order to determine the level of intellectual creativity of the players in addition to measuring the cohesion of the team being an

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important factor In creative performance, the process of legalization occupies great importance as it is one of the scientific foundations through which we find out what has been achieved within the field of numbers of players, and by reviewing the sources it was found that the standards for creative thinking are general standards that are not specific to a sports game and need to be modified to be more in line with The measured phenomenon with regard to the game of volleyball, and within that the research problem was to codify the scale of creative thinking on elite club players in volleyball, as well as to determine the extent of its association with the psychological aspect that is bored with team cohesion as it contributes to achieving positive results (**Nedaa, 2019**).

(Handball, 2008) concluded that simple and uncomplicated skills play a prominent role in the existence of the relationship between creative thinking and the skillful performance of the goalkeeper with handball. (**Zahra, 2006**) emphasized the importance of measuring creative thinking, and the study concluded that there is a relationship between creative thinking and cognitive achievement in the subject of swimming, as well as that the specificity of the skill tests used in researching the skill of swimming subject is not necessarily related to thinking due to the nature and specificity of performance The skill required in the evaluation process used to establish the degree of achievement. (**Emad, 2007**) emphasized the cohesion and importance of the sports team by building a scale of sports cohesion for team games. (**Nidaa, 2019**) which emphasized the need to pay attention to creative thinking because of its great impact on enhancing students' confidence in their abilities.

Methodology

Method and tools: The descriptive method through the survey method was used due to its suitability in solving the research problem. *The research community* is from players clubs Iraq participating in the League elite volleyball ball totaling (5) clubs , they (police, Koot, industry, country, Habbaniyah), and divided the sample into (14) Player of the experience of the exploratory representing (Koot Club) And (47) players with the aim of applying the standardization procedures for the scale, and verifying the validity of the paragraphs, this and the scale was applied after a maximum period of three weeks had passed for (70) players, if the exploratory experiment sample was added to extract the grades and standard levels of the sample in addition to extracting the creative thinking link coherently.

The search variable: Through the review of previous sources and studies, the Hardan scale of handball was adopted to measure creative thinking, and some adjustments were made to its paragraphs in proportion to the game of volleyball, and this used the method of multiple choice, which is based on the three alternatives (agree, hesitant, disagree), and reached The number of its paragraphs in the initial formula is (38) paragraphs.

Discriminatory ability of paragraphs and homogeneity of paragraphs: It was an exploratory experience for to make sure the clarity of paragraphs and understanding of the extent and clarity of the instructions, as well as to find out the time it takes to answer on the scale and identify the obstacles that it is possible to face when the main application of the scale, and conducted the experiment on Wednesday approved (21/11/2018) in the Hall of the People on a sample consisting of (14) player, showing the sample accept the measure through the clarity of instructions and ease of understanding and clarity of paragraphs, knowing that the time it takes to answer on the scale ranging from (8 - 12 minutes). The application of the scale on the personnel sample rationing totaling (47) players from the players League elite volleyball season 2018-2019 for a period on Saturday, 24/11/2018 until on Sunday , 25/11/2018 and after the completion of the main experiment was the order of forms measure and correct and record the results in preparation for analysis statistically , has been found descriptive characteristics of the degrees of the sample response and number (47) player , then applied the scale on a sample of members of the main experiment totaling (70) for the player of the elite League ball volleyball season 2018-

2019 in on Tuesday 8 /1/2019 on Wednesday , corresponding to 9 /1/2019 was then the order forms the scale and correct and record the results in preparation for analysis statistically , has been found descriptive characteristics of the degrees of the sample response and number (70) player shows through which the sample is distributed naturally in the scale Table (4) shows that , and the researcher also used the statistical program Spss.

The scientific foundations of the scale: The Creative Thinking Scale was analyzed according to two indicators: the discriminatory ability of the paragraphs, which represent a type of validity that is used in determining the validity of the test and is also called the terminal comparison or the two extremes , which give an important indication for building standards or tests and is evidence of discrimination (**Hani, 2016)** and as Explained in Table (1), as well as extracting the homogeneity of the paragraphs to determine the good spread of the sample upon completion of the creative thinking test, as shown in Table (2) .

Table (1) the discriminatory ability of the paragraphs of the Creative Thinking Scale

Paragraph number	Lower group		Top group		Values (t) Calculated	Significance value	The result
	s	P	s	P			
1	3.000	0.000	2.000	0.707	5.099	**0.004**	**moral**
2	1.846	0.55	1.000	0.000	5.500	**0.001**	**moral**
3	3.000	0.000	2.461	0.518	3.742	**0.001**	**moral**
4	3.000	0.000	2.61	0.50	2.73	**0.000**	**moral**
5	2.69	0.48	1.000	0.000	12.70	**0.000**	**moral**
6	2.53	0.51	1.000	0.000	10.69	**0.000**	**moral**
7	3.000	0.000	1.76	0.43	10.11	**0.000**	**moral**
8	3.000	0.000	1.61	0.50	9.85	**0.000**	**moral**
9	3.000	0.000	1.76	0.59	7.40	**0.000**	**moral**
10	3.000	0.000	2.46	0.51	10.69	**0.000**	**moral**
11	3.000	0.000	1.69	0.48	9.815	**0.000**	**moral**
12	3.000	0.000	2.46	0.66	2.94	**0.000**	**moral**
13	3.000	0.000	2.000	0.707	5.099	**0.004**	**moral**
14	3.000	0.000	1.23	0.43	14.54	**0.000**	**moral**
15th	3.000	0.000	2.000	0.707	5.099	**0.004**	**moral**
16	3.000	0.000	1.53	0.51	10.15	**0.000**	**moral**
17	3.000	0.000	1.61	0.50	9.85	**0.000**	**moral**
18	3.000	0.000	1.61	0.50	9.85	**0.000**	**moral**
19	3.000	0.000	1.000	0.000	0	**0.000**	**Non - legal entity**
20	2.38	0.50	1.000	0.000	9.85	**0.000**	**moral**
21	2.61	0.50	1.000	0.000	11.50	**0.000**	**moral**
22	3.000	0.000	1.53	0.51	10.15	**0.000**	**moral**
23	2.53	0.51	1.000	0.000	10.69	**0.000**	**moral**
24	3.000	0.000	1.07	0.27	25.00	**0.000**	**moral**
25	3.000	0.000	1.69	0.48	9.815	**0.000**	**moral**
26	3.000	0.000	1.000	0.000	0	**0.000**	**Non - legal entity**
27	2.69	0.48	1.000	0.000	12.70	**0.000**	**moral**
28	2.61	0.50	1.000	0.000	11.50	**0.000**	**moral**
29	3.000	0.000	1.07	0.27	25.00	**0.003**	**moral**
30	2.30	0.48	1.000	0.000	9.81	**0.000**	**moral**
31	3.000	0.000	1.000	0.000	0	**0.000**	**Non - legal entity**
32	3.000	0.000	1.000	0.000	0	**0.000**	**Non - legal entity**
33	3.000	0.000	1.000	0.000	0	**0.000**	**Non - legal entity**
34	3.000	0.000	1.000	0.000	0	**0.000**	**Non - legal entity**

35	3.000	0.000	1.69	0.48	9.81	**0.000**	**moral**
36	3.000	0.000	1.000	0.000	0	**0.000**	**Immoral**
37	2.53	0.51	1.000	0.000	10.69	**0.000**	**moral**
38	1.84	0.55	1.000	0.000	5.500	**0.001**	**moral**

Table (2) the nature of the sample distribution in the paragraphs

Paragraph number	s	P	Coefficient of torsion	Paragraph number	s	P	Coefficient of torsion
1	2.72	0.578	2.018	20	1.383	0.677	1.542
2	1.23	0.476	1.910	21	1.638	0.764	0.731
3	2.851	0.359	2.038	22	2.531	0.717	1.221-
4	2.893	0.311	2.638-	23	1.510	0.748	1.101
5	1.744	0.765	0.477	24	2.106	0.786	0.193-
6	1.638	0.735	0.697	25	2.340	0.635	0.426-
7	2.617	0.609	1.372-	26	1.978	0.793	0.039
8	2.51	0.687	1.088-	27	1.74	0.765	0.477
9	2.65	0.635	1.702-	28	1.808	0.711	0.297
10	2.55	0.746	1.337-	29	2.17	0.816	0.329-
11	2.340	0.653	0.426-	30	1.36	0.640	1.586
12	2.85	0.415	2.931-	31	2.106	0.914	0.218
13	2.72	0.578	2.018-	32	2.06	0.791	0.111-
14	2.063	0.704	0.090-	33	1.97	0.820	0.040
15	2.72	0.578	2.018	34	2.17	0.842	0.338
16	2.383	0.708	0.714-	35	2.61	0.644	1.477-
17	2.51	0.687	1.088-	36	2.04	0.858	0.084-
18	2.617	0.677	1.542-	37	1.510	0.748	1.101
19	2.234	0.865	0.483-	38	1.23	0.476	1.910

It was found that all the paragraphs of the Creative Thinking Scale are statistically significant, except for the paragraphs (19, 26, 31, 32, 33, 34, 36), so they are not significant at the level of significance (0.05), so it was rejected, so that the number of remaining paragraphs of the scale is (31) Appendix Paragraph (1). And to verify the consistency, which means "the degree of consistency of what the test measures" (**Abdel-Dayem**, **1999**) and for a measure of creative thinking the following methods are used:

- *Half- segmentation method*: If the reliability coefficient is extracted by using Guttmann's law, the fact that the paragraphs are individual if the test reliability coefficient reaches (0.960)
- *Fakronbach method***:** Fakronbach refers to the extent of the internal cohesion and harmony of the paragraphs (PT Costa .and other, p44), and the scale stability coefficient reached (0,990), with a level of significance (0.05), and with a significant significance (0.00).

*The objectivity***:** it has been verified that the scale has alternatives to the answer and is not subject to bias in estimating the weight of each substitute for the paragraph.

Standard scores for the Creative Thinking Scale: The standards are a set of scores derived from specific statistical methods from the raw scores and are used to compare the performance level of a particular individual with the performance level of the group to which he belongs, as shown in Table (3).

Table (3) Standard (modified) scores for the Creative Thinking Scale

Raw grade	Modified standard score T	Raw grade	Modified standard score T	Raw grade	Modified standard score T
80	69.72	70	51.61	66	44.36
80	69.72	70	51.61	66	44.36
79	67.91	70	51.61	65	42.55
79	67.91	70	51.61	65	42.55
79	67.91	70	51.61	64	40.74
78	66.10	70	51.61	64	40.74
78	66.10	70	51.61	64	40.74
78	66.10	69	49.80	64	40.74
78	66.10	69	49.80	64	40.74
77	64.29	69	49.80	64	40.74
76	62.47	68	47.98	64	
	40.74				
76	62.47	68	47.98	63	38.93
75	60.66	68	47.98	63	38.93
75	60.66	67	46.17	63	38.93
75	60.66	67	46.17	63	38.93
74	58.85	67	46.17	63	38.93
73	57.04	67	46.17	62	37.12
73	57.04	67	46.17	62	37.12
73	57.04	67	46.17	61	35.31
73	57.04	66	44.36	60	33.49
72	55.23	66	44.36	60	33.49
72	55.23	66	44.36	60	33.49
71	53.42	66	44.36		

- **Presentation and determination of the standard levels of the Creative Thinking Scale for the legal sample, analyzing and discussing them**:

After it has been identified that the sample is distributed naturally distributed through the convolution coefficient, P z not p n get standard grades

Table (4) Standard levels and percentages of the Creative Thinking Scale

very good (2,145)		**good (13.59)**		**above average (34.13)**		**Below average (34.13 43)**		**Weak (13.59)**		**Very weak (2,145)**	
the number	*Percentage*	*the number*	*Percentage*	*the number*	*Percentage*	*the number*	*Percentage*	*the number*	*Percentage*		*the number*
-	**-**	**15**	**21.43**	**16**	**22,86**	**28**	**40**	**11**	**15,71**	**-**	**-**

Results

From the foregoing, it is clear that the sample level was divided into levels (good, below average, weak) And the ratio The highest were within the below average level The reason for this is that creative thinking has not taken much attention

in theoretical and practical exercises,(**Amer, 2016**) if the player's focus is in the implementation of the skill in the absence of intellectual creativity, and this is a natural result of not realizing the importance of the intellectual construction based on the development of mental capabilities through the use of various forms of skill and planning applications, "as tactical skills depend on the athlete's ability to evaluate continuous variables In playing quickly and based on that, thinking is done" (**Odeh, 2007**), and in a manner that achieves the ability to implement creatively and creatively during performance, as well as not assigning the player duties that allow him to develop thinking through choosing the appropriate solution for the theoretically facing situation and reinforced by practical application, In addition to the lack of participation of players in external matches and with competitors with high mental capabilities in order to train intellectually and develop motor creativity, the fact that creative thinking reflects the brain's ability to visualize movements in order to organize and control behavior, that is, "reorganizing what the individual perceives and what he remembers in a new form or in a new relationship. It was not known before that this relationship helps to solve the problems that face, whether these problems are motor or cognitive" (**Ismail, 2004**), to achieve positive results.

Table (5) Coefficient of correlation between creative thinking and team cohesion among volleyball players

grade Raw	(R) Values Calculated	Tabular* (R) Values	Statistical significance
Test Cohesion Team	**0.79**	**0.250**	**Mora**

At a degree of freedom (68) and a level of significance (0.05)

The reason for the existence of a good correlation is that mental and psychological abilities run within a single line of initiation. The correct behavior of the confrontational situation is reflected in the interaction of the team members and their increased motivation towards achieving positive results. The volleyball player deals with the tactical situation with what he has of intellectual solutions coupled with cooperation between Players and a sense of team spirit, giving and giving in order to reach the implementation of high skill in sensitive time and the final result is the success of the performance,(**Yassin, 2006**) meaning that the cohesion of the team is one of the important pillars in achieving achievement and excellence, especially since performance in volleyball is interdependent, and interacting work requires that all team members work in perfect harmony through physical and movement integration in order to achieve one goal of successful performance, (**Ismail, 2006**) And the cohesion of the team affects the performance of the player and vice versa, the more cohesive team is more accomplished and successful.

Conclusions

1. The standard of creative thinking for volleyball players has been codified.
2. The emergence of a clear discrepancy in the achievement of the players by comparing the standard levels achieved with the levels of normal distribution.
3. The results of the players were below average at the standard levels and there is a weakness in creative thinking.
4. There is a good correlation between creative thinking and team cohesion among volleyball players.
5. Emphasis on giving more time to theoretical applications regarding creative thinking and linking it to practical applications in order to develop the creative intellectual performance of volleyball players.
6. Emphasis on the need to involve players in foreign matches to give them a greater opportunity to develop their mental capabilities to be more effective in facing the requirements of intellectual and kinetic creativity. .

7. The necessity of conducting periodic tests to determine the level of creative thinking of the players and to determine the success of the plan followed in training.
8. The application of the current scale on the players to determine their level of creative thinking and to determine the success of the programs designed to develop intellectual kinesthetic creativity.

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Appendix (1) Final Team Cohesion Scale

T	Paragraph	Applies to it greatly	Apply it to a medium degree	It applies to an acceptable degree	It applies to a small degree	Not applicable to it
1	I do my best for the good of the team					
2	Why do I help others if they are not able to help me					
3	I feel upset if I help my teammates again					
4	My spirits support team cohesion					
5	I contribute a lot to the team's achievements.					

6	**I am capable of challenging tasks.**					
7	**I think that participating in important tournaments is a big responsibility**					
8	**It is not necessary to take care of the group.**					
9	**I am proud of those who support the team and express solidarity with it in all its conditions.**					
10	**My goal is to be more united and united within the team.**					
11	**I rest assured that we always win because we are more committed and consistent.**					
12	**I find it difficult to comply with the group's opinion.**					
13	**Sometimes my joint work with the team does not lead to an integrated work.**					
14	**Comply with the group for what serves the way of working and achieving the goal.**					
15th	**He was very upset with our long presence in the club.**					
16	**Solidarity is not what brings about achieving the goal.**					
17	**For our cohesion, I give all my time to play with the team.**					
18	**My high spirits push me hard to achieve the team goals.**					
19	**I care for us to train as one group.**					
20	**Selflessness assures me of my teamwork.**					
21	**Always work for team unity.**					