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Emotional arousal, achievement motivation, and their relationship to the accuracy of serving and spiking volleyball skills among youth players

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Abstract

The purpose of this paper is to identify the level of emotional arousal, achievement motivation, and accuracy of spiking and serving skills among youth volleyball players, and identify the relationship between the level of emotional arousal, achievement motivation, and accuracy of spiking and serving skills among youth volleyball players. The researcher used the descriptive approach using a correlational approach to suit the nature of the research problem. The research community was defined as (179) youth club players for the 2024-2025 season, representing (14) teams and aged (17-18). The research sample was selected from Baghdad clubs. The researcher selected Al-Sina'a and Al-Shorta clubs as the research sample, totaling (24) players. The sample was divided into an exploratory sample consisting of (5) players and (19) players for the main sample. One of the most important results reached by the researcher is that: Emotional arousal has a positive effect on the skill of the high cross and straight cross, and achievement motivation has a positive effect on the skill of the high cross and straight cross. One of the most important recommendations recommended by the researchers is that: The need to pay attention to psychological trends, including emotional arousal and achievement motivation, due to their significant impact on determining young players' abilities to master skills.

Keywords: Emotional arousal, achievement motivation, volleyball skills, youth players, performance accuracy

Introduction

Sports have witnessed rapid and effective development in recent years. This development was the inevitable result of extensive research and studies conducted on various individual and team sports, including volleyball, which has witnessed developments in its rules and tactical aspects, as well as in the rise of players' physical, skill, and psychological performance. What distinguishes volleyball is its reliance on mental and psychological abilities as much as it does on physical and skill abilities. The skills of the game complement each other and are the fundamental axis of team building. Precision in the performance and implementation of these skills is essential, commensurate with the rapid changes in the game, which are appropriate for the relatively small size of the volleyball court. The frequent successes and failures in volleyball, through scoring points and winning and losing sets, have a definite impact on players' behavior during the match, which in turn affects the accuracy of their skill performance and, consequently, the outcome of the match. (Jerri, Radhi, & Oleiwi, 2024) ^[10] (Radhi & Obaid, 2020) ^[11]. During competition, players are exposed to psychological states and situations accompanied by excitement and agitation. Therefore, psychological preparation has become a necessary and urgent process for the player to be able to control their emotions and regulate their behavior. Emotional arousal and achievement motivation are the ability to control oneself in emotionally arousing situations, i.e., avoid recklessness and impulsiveness, which allows the individual to think and choose the most appropriate responses. This includes the ability to tolerate frustration and deprivation, i.e., the predominance of immediate goals over distant ones. Emotions or feelings are an internal event because this event may, in turn, trigger an external manifestation that reflects it. Sometimes, this manifestation suddenly becomes difficult to control. (Arnove, 1983) ^[1]. Emotional arousal and achievement motivation are important in the practice of sports, especially among volleyball players. The researcher chose this topic to reveal and identify the extent of their arousal and motivation.

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Therefore, the importance of the research lies in determining the level of performance of the university volleyball team players and improving the accuracy of their performance in the skill of spiking and serving. It is also important to study the psychological aspect in its entirety by understanding the relationship between emotional arousal, achievement motivation, and the accuracy of the performance of the skill of spiking and serving in volleyball. This will effectively contribute to achieving high skill performance and, consequently, improving the accuracy of spiking and serving during play.

Research problem: The psychological state of young volleyball players and their skill performance play an important role in bringing them to the athletic level that qualifies them to compete in matches. This is achieved through proper preparation during the training process, and it is the responsibility of every coach to help their team reach the desired level in volleyball. Volleyball differs from other ball games in that a mistake made by a team member leads to losing a point, while sometimes a mistake in other ball games leads to the opposing team taking possession of the ball, which can be recovered again. Since the skill of spiking and serving is one of the offensive weapons of the team to obtain points and win the set and the match, as the attack depends largely on good preparation and depends on good organization between the blocking wall and the audience's cheers sometimes have a negative impact on the players' emotions and the referee's decisions sometimes. All of the above constitutes great psychological pressure on the accuracy of the player's performance of the skill of spiking and serving throughout the match. This is a problem that should be studied through its psychological framework in a set of variables affecting performance. Therefore, the researcher decided to study the research problem consisting of weakness in the skill of serving and spiking in volleyball as a result of the pressures they are exposed to during the game.

Research objective

- Identify the level of emotional arousal, achievement motivation, and accuracy of spiking and serving skills among youth volleyball players.
- Identify the relationship between the level of emotional arousal, achievement motivation, and accuracy of spiking and serving skills among youth volleyball players.

Research hypotheses: There is a statistically significant relationship between emotional arousal, achievement motivation, and accuracy of spiking and serving skills among youth volleyball players.

Research fields

- Human field: Youth players for the 2024/2025 sports season
- Time field: (20/1/2025) to (20/3/2025)
- Spatial field: Sports halls for the research sample.

Research methodology and field procedures

Research Methodology

The researcher used the descriptive approach using a correlational approach to suit the nature of the research problem. The descriptive approach aims to "identify the circumstances and relationships between reality and appearance. It also aims to collect data from community members in an attempt to determine the current state of society in several variables" (Jasem, Zeena Khaled, *et al.* 2024)^[2].

Community and sample research

The research community was defined as (179) youth club players for the 2024-2025 season, representing (14) teams and aged (17-18). The research sample was selected from Baghdad clubs. The researcher selected Al-Sina'a and Al-Shorta clubs as the research sample, totaling (24) players. The sample was divided into an exploratory sample consisting of (5) players and (19) players for the main sample. Table (1) shows the sample division and percentages.

Table 1: shows the sample details.

Sample	Number	Percentage of the sample
Total	24	100%
Exploratory	5	20.83%
Main Sample	19	79.16%

Devices, Tools Used, and Data Collection Methods

The researcher used the following devices and tools

- Arabic and foreign sources.
- Tests and measurements.
- Emotional arousal and achievement motivation scale.
- Data recording form.
- A legal volleyball court.
- Colored tape for measuring distances.
- Electronic calculator.
- Volleyballs (4)
- Whistle
- Statistical Methods
- Supporting Team

Field Research Procedures

Defining Research Variables

Emotional Arousal and Achievement Motivation Scales

The researcher relied on scientific sources and the Emotional Arousal Scale by (Issam Mohammed Abdul-Ridha. 2002.)^[3], which consists of (31) items to be answered by the respondent, as shown in Table (2). As for the Achievement Motivation Scale, the researcher relied on the Achievement Motivation Scale by (Haider Abdul-Ridha. 2005)^[4], which was applied in the Iraqi environment. The scale consists of (31) items to be answered by the respondent, as shown in Table (2).

Table 2: shows the Emotional Arousal Scale

No.	Paragraphs	Often	Sometimes	Rarely
1	I feel psychologically stable when I use relaxation exercises.			
2	I perform best when I'm calm.			
3	I prefer winning to losing when the competition is important.			
4	My anxiety increases when I suffer an injury.			
5	I get agitated when a referee makes wrong decisions.			

6	I pray to God before a match, asking for success and prosperity.			
7	I feel comfortable accepting advice from my teammates.			
8	My tension and anxiety increase when I think about the importance of the competition.			
9	My coach's criticism hinders my ability to focus and pay attention during competitions.			
10	I resort to using the bathroom several times before a competition.			
11	I feel hurt by the players' vulgar shouts.			
12	I feel confident when my coach recites Surat Al-Fatihah with us.			
13	I perform best when my coach encourages me.			
14	I get more excited when the administrator is unsportsmanlike.			
15	I mentally visualize the game plan before executing it. I blame myself when I make a mistake, even if it's minor.			
16	The coach's attention to the game plan makes me more thoughtful about the importance of the match.			
17	My shouting to my teammates before the match strengthens me.			
18	I feel psychologically reassured when I play for a team that understands the rules of the game well.			
19	My performance is better when my father, siblings, and loved ones watch me.			
20	I feel nervous when the coach's instructions aren't effective.			
21	I get irritated when the referee's poor judgment leads to my team's defeat.			
22	I feel psychologically reassured when I see the officials showing me great concern before, during, and after the competition.			
23	I feel uncomfortable with the administrators' bias toward some players.			
24	I feel happy when I participate in a competition of equal caliber.			
25	I feel psychologically reassured when I see fans supporting our team.			
26	As the competition approaches, my heart rate increases.			
27	I put in a special effort in important competitions.			
28	I enjoy the competition more than the training.			
29	I feel psychologically stable when I use relaxation exercises.			
30	I feel remorse when I repeat the same mistakes I made in the past in competition.			
31	I always think about how to perform in the required time.			

Table 3: shows the achievement motivation scale

No.	Paragraphs	Applies to a large extent	Applies to a moderate extent	Applies to a small extent	Does not apply to me
1	I get bored with long-term training.				
2	I dream of achieving a high status in the sports community.				
3	I like to be on the bench when we play strong teams.				
4	I prefer practicing my sport and competing in it to any other job.				
5	I have the desire to excel and achieve success in volleyball.				
6	I am determined to win despite the difficulty of the opposing team.				
7	I expect to fail in everything I do.				
8	I feel like all the players are against me.				
9	I blame others when I fail.				
10	I expect high achievement to open doors to the future for me.				
11	I always strive to be at the level of distinguished players.				
12	I don't want to train longer or harder than my fellow players.				
13	I believe that success in sports tournaments is based on struggle and sacrifice.				
14	I feel afraid and confused when playing in front of a large audience.				
15	I see volleyball as something exciting that warrants continuing to play despite the difficulties.				
16	I believe my future lies with the club I play for.				
17	I avoid challenges that I know other players have failed to overcome.				
18	I am comforted by my team's victory in any competition it enters.				
19	I am willing to sacrifice to achieve my sporting goal.				
20	I fear defeat before and during a match.				
21	Joining my club team is an important goal in my life.				

22	I care about continuing to play with my team.				
23	I avoid being too serious in training to avoid getting hurt.				
24	I have confidence in myself and my team to win.				
25	I hold myself accountable for my mistakes.				
26	I feel very fearful when facing strong opponents.				
27	I am very optimistic about my sporting future.				
28	I plan my activities toward achieving my sporting future.				
29	I am the type of person who easily gives up when faced with difficulties.				
30	I lack confidence in my performance during matches.				
31	I don't care about comparing my performance to that of other players.				

Correcting the two scales

The emotional arousal scale consists of (31) items, and responses are based on three alternatives: (often, sometimes, rarely). The positive items are given a score of (1, 2, 3), respectively, and the negative items are given a score of (1, 2, 3), respectively. The achievement motivation scale consists of (31) items, and the player responds according to four alternatives: (applies to a great extent, applies to a moderate extent, applies to a small extent, does not apply to me). The scores are given (1, 2, 3, 4), respectively. These responses are for the positive items, and the negative items are given a score of (1, 2, 3, 4), respectively.

Skill Tests (Muhammad Subhi Hassanein and Hamdi Abdel Moneim, 1997)^[5]

In order to measure the accuracy of the players' offensive volleyball skills, in addition to the researcher's limited experience, the following tests were adopted for use in many studies and on samples similar to our current research sample.

First Test: Serving

- **Purpose of the test:** To measure the skill of serving.
- **Equipment used:** (10) volleyballs, a court divided as shown in Figure (1). Each score within this division represents the score awarded to the test subject if the ball lands within this area.

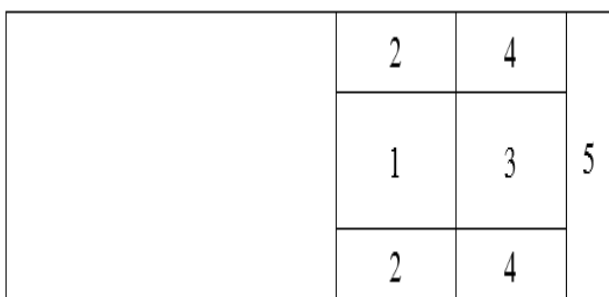


Fig 1: Volleyball Serving Skill

Performance Specifications

- From the serving area, the examinee performs ten attempts.
- Each attempt must be performed in accordance with the legal conditions for serving.
- When the ball lands on the line shared between two areas, the examinee is awarded the score in the higher area.
- **Recording Conditions:** The examinee's points earned from the ten attempts are recorded.

Diagonal and Straight Spiking Skill Accuracy Test

- **Purpose of the test:** To measure the accuracy of the diagonal and straight spiking.
- **Equipment:** A legal volleyball court, legal volleyballs, and two 1.5m x 1.5m mats, as shown in Figure (2).
- **Performance Specifications:** The tested player performs the spiking from position (4) with the help of a trainer from position (3). The tested player must perform (5) diagonal spikings and (5) straight spikings.

Recording

- (3) Points for each correct spiking that lands the ball on the mat.
- (2) Points for each correct spiking that lands the ball in zone (A) for the diagonal spiking and in zone (B) for the straight spiking.
- One point for each spiking that lands the ball in zone (B) for the diagonal spiking and in zone (A) for the straight spiking.
- Points for each failed spiking.

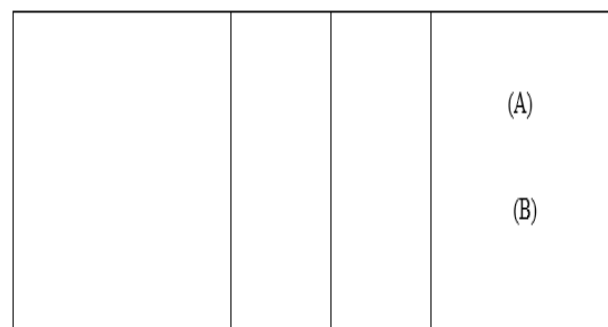


Fig 2: shows the spiking skill test.

Exploratory Experiment

The researcher conducted the exploratory experiment on (5) players from the original community, who were randomly selected. The objectives of the experiment were:

- To identify the difficulties and problems facing the researcher when applying the two scales.
- To understand and comprehend the study scales.
- To determine the validity of the tests for the research sample.
- To determine the competence of the support team.

Application of the two scales (organizational integrity, job immersion) to the research sample

After selecting the two research scales and the skill tests for the youth players, the researcher applied the two scales to the research sample, which numbered (19) players, and then

tested them on the skills of spiking and serve. After completing the main experiment, the researcher arranged and corrected the scale questionnaires, and recorded the results in preparation for statistical analysis.

Statistical Methods

The researcher used the SPSS statistical package

- Arithmetic mean.
- Standard deviation.
- Simple Pearson correlation.

Results and discussion

Presentation and analysis of the results of the arithmetic means and standard deviations for the emotional arousal and achievement motivation scales and some technical skills in volleyball:

Table 4: shows the arithmetic means and standard deviations for the emotional arousal and achievement motivation scales and some technical skills in volleyball and their analysis.

No.	Tests	Unit of measurement	Arithmetic means	Standard deviations
1	Emotional arousal	Degree	62.7857	4.50945
2	Achievement motivation	Degree	80.2143	6.02787
3	Serving	Degree	33.8571	3.88007
4	Straight spiking	Degree	10.9286	0.91687
5	Diagonal spiking	Degree	10.1429	1.35062

Presentation and discussion of the results of the correlation between the emotional arousal scale, achievement motivation, and some technical skills in volleyball, and their analysis:

Table 5: shows the correlation between the emotional arousal scale, achievement motivation, and some technical skills in volleyball, and their analysis.

No.	Variables	Correlation coefficient	Level Sig	Type Sig
1	Achievement Motivation	0.791	0.001	Sig
2	Serving	0.116	0.692	Non sig
3	Straight Spiking	0.558	0.034	Sig
4	Diagonal Spiking	0.486	0.001	Sig

Under a significance level of (0.05) and a degree of freedom of (18): Table (5) shows that the correlation coefficient between arousal and achievement motivation was (0.791), while the true significance was (0.001), which is smaller than the significance level of (0.05), indicating a significant correlation between them. The correlation coefficient between arousal and the skill of sending was (0.116), while the true significance was (0.692), which is greater than the significance level of (0.05), indicating the absence of a significant correlation between them. The correlation coefficient between arousal and the skill of straight spiking was (0.558), while the true significance was (0.034), which is smaller than the significance level of (0.05), indicating the presence of a significant correlation between them. The correlation coefficient between arousal and the skill of diagonal spiking was (0.486), while the true significance was (0.001), which is smaller than the significance level of (0.001). (0.05), indicating a significant correlation between them.

Presentation and discussion of the results of the correlation between the achievement motivation scale and some technical skills in volleyball and their analysis:

Table 6: shows the correlation between the emotional arousal and achievement motivation scales and some technical skills in volleyball and their analysis:

No.	Variables	Correlation coefficient	Level Sig	Type Sig
1	Serving	0.120	0.692	Non sig
2	Straight spiking	0.884	0.000	Sig
3	Diagonal spiking	0.638	0.014	Sig

Under a significance level of (0.05) and a degree of freedom of (19), Table (6) shows that the correlation coefficient between arousal and achievement motivation reached (0.791), while the true significance reached (0.001), which is smaller than the significance level of (0.05), indicating the presence of a significant correlation between them. The correlation coefficient between arousal and the skill of sending reached (0.116), while the true significance reached (0.692), which is greater than the significance level of (0.05), indicating the absence of a significant correlation between them. The correlation coefficient between arousal and the skill of straight spiking reached (0.558), while the true significance reached (0.034), which is smaller than the significance level of (0.05), indicating the presence of a significant correlation between them. The correlation coefficient between arousal and the skill of diagonal spiking reached (0.486), while the true significance reached (0.001), which is smaller than the significance level of (0.001). (0.05), indicating a correlation between them.

Discussion of the Results

From Table (4-6), we can see that there is a significant correlation between emotional arousal, achievement motivation, and spiking skill. The researcher attributes this to "sports experience playing an important and effective role in controlling unwanted emotional states before races and competitions." (Rissan Khuraibat. 1998) [6]. The availability of a good level of emotional arousal helps achieve good achievement motivation, as it is linked to the characteristics of the player's personality, behavior, motivations, needs, and the types of activities they engage in. There are absolutely no types of sports practices that are not tinged with emotions." (Muhammad Jassim Arab, Musa Jawad Kadhim. 2001) [5]. Also, the good motivation, enjoyment, and pleasure provided by the coach to the player, along with the surrounding conditions, play a significant role in increasing the player's motivation. Therefore, "a successful coach is skilled at organizing the players' physical and psychological energies and controlling and mastering the players' thoughts and feelings during competition, which leads to improved performance." (Osama Kamel Rateb. 1995) [8]. through what has been mentioned, a large part of the research hypothesis regarding the existence of a relationship between emotional arousal and achievement motivation has been achieved. Achievement motivation, however, must be at a level that can be utilized and does not affect the player's motivation. This is achieved through proper psychological preparation by the coach during the training period, accustoming the player to how to face difficult circumstances with control and without nervousness, in order to benefit from this arousal positively to increase motivation and achieve good results for the team.

When the achievement motivation focuses on the individual's interest in fulfilling their potential and abilities, it is classified as a growth motivation. However, if the interest is focused on competition between individuals, it can be considered a social motivation (Yahya Kadhim Al Naqeeb. 1990)^[9].

Conclusions and Recommendations

Conclusions: Based on the results reached by the researcher within the limits of the research, the following conclusions were reached:

1. Emotional arousal has a positive effect on the skill of the high cross and straight cross.
2. Achievement motivation has a positive effect on the skill of the high cross and straight cross.
3. Young players are distinguished by their good level of the skills of the cross and serve in volleyball.
4. The research sample's desire to achieve objective goals.

Recommendations

1. The need to pay attention to psychological trends, including emotional arousal and achievement motivation, due to their significant impact on determining young players' abilities to master skills.
2. The need to activate joint work between the coach and player in preparing for psychological and skill-level requirements to serve the game of volleyball.
3. Apply the two scales to other samples of volleyball players.
4. Conduct further studies on different samples.

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