



Attention and motor response of middle blockers and their relationship with performance level in the Iraq Premier Volleyball League

Bassam Omran Khudair*

Basrah Education Directorate, Ministry of Education, Iraq.

* Correspondence: Bassam Omran Khudair; bassamomran1975@gmail.com

ABSTRACT

The study aimed to examine the attention and motor response of middle blockers among volleyball players and their relationship with performance level in the Iraq Premier Volleyball League. The sample consisted of 14 volleyball players from Iraqi Premier League clubs, including Gaz Al Janoub, Al Bahri, Haditha, Balad, Erbil, Al Jaish, and Al Dagbara, located in Basrah Governorate. The instruments used in this study included the Borden-Infimov test to measure attention manifestations, Nelson's test to evaluate translational motor response, and a specialized blocking test to assess blocking skills in volleyball. For data analysis, the researcher used the Statistical Package for Social Sciences (SPSS) version 21. The study found a significant relationship between certain aspects of attention and motor response and the performance level of the wall blocking skill ($p < 0.05$). It also revealed significant differences in the defensive blocking skill performance levels among players from Iraq's elite league teams ($p < 0.05$). Notably, the players from the South Gas Club, being national team players with more experience, ranked first in terms of performance level. The study suggests focusing on exercises to develop attention and motor response levels in volleyball players, implementing various tests to assess and improve their performance, and enhancing attention and motor response skills globally.

KEYWORDS

Attention; Motor Response; Performance Level; Volleyball

1. INTRODUCTION

Interest in volleyball has grown significantly across all levels, earning a prominent place among other games enjoyed by all age groups. As media coverage and public engagement have expanded, so too have the number of practitioners, who are increasingly aware of the sport's rapid global development. The scientific planning of sports training has further enhanced the beauty of volleyball. The game's rhythm has become faster and more synchronized, with the variety and speed of attack strategies adding substantial challenges for all players, including those in defensive roles.

In volleyball, many fundamental skills demand high mental capacity, with blocking being a key example. As the first defensive skill and the initial line of defense for the receiving team, blocking is crucial. Teams aiming to score points directly must prioritize improving their players' blocking abilities. A well-prepared player who can identify weaknesses in the opposing team's defense can maximize their own skills and those of their attacking teammates.

Mental abilities are a subject of great interest to specialists due to their significant impact on physical education. These abilities encompass a wide range of brain processes, including sense, awareness, perception, mental imagery, memory, recollection, and reaction. These cognitive processes play an active role in motor skills, particularly in adapting to the fast-paced transitions between attack and defense in volleyball. Consequently, it is vital for volleyball players to develop advanced kinetic abilities, enabling them to perform effectively in alignment with the sport's evolving dynamics.

Al-Arabi & Al-Jamal (1996) indicated that volleyball depends on mental abilities as much as it depends on physical and motor abilities, as the relationship between the mental aspect and physical performance has become an interesting matter for coaches and athletes.

Knowing the basic skills in volleyball is the backbone of this game, and they need a long time to acquire it and training based on scientific foundations, especially if we consider the ball's speed and the small area of its court. In addition, it is necessary to have a perfect command of the offensive and defensive skills to win a point in the match, particularly the middle player's ability to block the ball, as the team depends on his defence skills for quickly attacking sometimes. At other times, he should do double and triple blocking with the front-line players to form the various attack movements, which require him to be aware and focus on the players' positions throughout the match.

The central player in the team bears the most significant burden of countering the attack of the opposing team. The midfielder must have mental and kinetic abilities that enable him to keep up

with the development of the skill performance of the players in different teams, as the level of offensive skill performance of the first teams in the Iraqi league has developed remarkably. As a result of the researcher's observation of the level of skill performance of midfielders in Iraqi Premier League teams, he found the level does not progress to the ranks of advanced countries in the game, which caused the loss of many points, and led to losing games and matches. The research problem that arose was the need to study and highlight the level of skill performance of Iraq's first league volleyball players. This study aims to examine the attention and motor response of middle blockers among volleyball players and their relationship with performance level in the Iraq Premier Volleyball League. The hypotheses are: 1) There are differences in the level of skill performance of players in the Volleyball Premier League. 2) There is a statistically significant relationship between the manifestations of attention, response speed and blocking skill at the players in the Volleyball Premier League.

2. METHODS

2.1. Participants

The research community was deliberately selected from the players of Iraqi Premier League clubs, including Gaz Al Janoub, Al Bahri, Haditha, Balad, Erbil, Al Jaish, and Al Daghara, located in Basrah Governorate. The sample consisted of 14 volleyball players, representing 30% of the original population.

2.2. Instruments

- **Borden-Infimov test:** Used to measure the manifestations of attention (Morcos, 1994).
- **Nelson's test:** Applied to evaluate translational motor response (Allawi, 1994).
- **Blocking test:** Designed to assess blocking skills in volleyball.

2.3. Procedures

The researcher conducted the main experiment on the research sample from December 20, 2020, to December 26, 2020, at the Olympic Hall in Basra Governorate, during a rally for the Iraqi Premier League. The experiment involved testing the manifestations of attention, followed by the reaction movement test, and then evaluating the players' blocking skill accuracy using a specialized imaging camera prepared for this purpose. Additionally, the researcher recorded the players' attempts using a specially designed form.

2.4. Statistical analyses

For data analysis, the researcher used the Statistical Package for Social Sciences (SPSS) version 21. Descriptive statistics and correlation analysis were conducted. The significance level was set at $p < 0.05$.

3. RESULTS AND DISCUSSION

Table 1 presents the descriptive statistics of variables related to attention and motor response in volleyball players. For attention acuity, the mean was 128.19 (SD = 19.09), with values ranging from 99.33 to 188.27. Focus attention had a mean of 12.23 (SD = 1.63), with values between 12.22 and 15.22. Attention distribution had a mean of 13.48 (SD = 2.05), ranging from 14.22 to 16.45. The motor response mean was 5.12 (SD = 0.73), with values between 5.02 and 6.45. Blocking had a mean of 106.75 (SD = 14.78), with the lowest value at 77.00 and the highest value at 132.00.

Table 1. Descriptive statistics of variables related to attention and motor response in volleyball players

Variables	Unit of Measure	Mean	Standard deviation	Lowest value	Highest value
Attention acuity	Degree	128.19	19.09	99.33	188.27
Focus attention	Degree	12.23	1.63	12.22	15.22
Attention distribution	Degree	13.48	2.05	14.22	16.45
Motor response	Degree	5.12	0.73	5.02	6.45
Blocking	Degree	106.75	14.78	77.00	132.00

The foreign game analysis and the research attributes were used to identify differences in the ability to perform for the South Gas Club, where the players were arranged in the following order: Al-Janoub Gas, Al-Bahri, Al-Jaish, Erbil, Al-Daghara, Haditha, and Balad. The differences in skill performance indicate that the players of South Gas are among the national team players, possessing a high level of performance that exceeds that of players from other teams. This is due to their ability to pay attention and react quickly, which is necessary for the midfielder's blocking ability. The experience of the players also played a role in the emergence of performance differences. Therefore, the first research hypothesis, stating that there are differences in the level of skill performance between players of the Iraqi elite teams' clubs, has been confirmed.

Table 2 presents the correlation coefficients between various aspects of attention and motor response, and the level of skill performance in blocking for the senators' players.

Table 2. Correlation coefficients between various aspects of attention and motor response and the level of skill performance of the senators' players in the blocking skill

No	Team	Blocking	Attention acuity	Attention distribution	Focus attention	Motor response
1	Al-Janoub Gas		0.984	0.897	0.900	0.742
2	Al-Bahri		0.978	0.885	0.887	0.735
3	Al-Jaish		0.970	0.865	0.882	0.715
4	Erbil		0.965	0.845	0.875	0.742
5	Al-Daghara		0.958	0.842	0.863	0.792
6	Haditha		0.952	0.835	0.844	0.776
7	Balad		0.917	0.830	0.833	0.768

Note. A significant degree of freedom (6) with an error rate of (0.05), where the tabular value was (0.707)

In the above table, the correlation coefficients between the level of some mental abilities and skill performance showed a high degree of positive significant correlation ($p < 0.05$). The researcher attributes this to the nature of the skill, which requires the player to maintain high attention due to the attacking player's performance speed at that moment. The middle blocker (position 3) must pay close attention to overcome all stimuli that occur during the competition, as the game involves significant changes in direction, requiring quick adjustments (Kakin, 2000). The high correlation between the kinetic response variable and the blocking skill performance indicates a significant relationship ($p < 0.05$). This is attributed to the nature of the skill, which requires higher levels of reaction and response, especially with the recent trend to use speed in performance, requiring fast reactions to quick balls from blocking players. This characteristic was notably observed in the research sample, especially among the blockers. Katz (1998) highlights the volleyball player's need to respond quickly with minimal resistance and excessive movement.

4. CONCLUSIONS

In conclusion, the study found a relationship between certain aspects of attention and motor response and the performance level of the wall blocking skill. It also revealed differences in the defensive blocking skill performance levels among players from Iraq's elite league teams. Notably, the players from the South Gas Club, being national team players with more experience, ranked first in terms of performance level.

5. RECOMMENDATIONS

The study recommends the following:

1. It is necessary to focus on exercises that help develop the attention and motor response levels of volleyball players in the Iraqi Elite League.

2. There should be an emphasis on implementing various types of tests for volleyball players to assess and improve their performance.
3. Attention should be given to exercises that enhance the attention and motor response skills of volleyball players globally.

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AUTHOR CONTRIBUTIONS

All authors listed have made a substantial, direct and intellectual contribution to the work, and approved it for publication.

CONFLICTS OF INTEREST

The authors declare no conflict of interest.

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