

The Spatial Perception as an connotation to the performance level of the forward repel blow of the badminton

Researchers

**Prof. Dr. Hisham Hindawi Howaidi, Asst. Prof. Dr. Asaad Ali Safih, , Alaa Abdul Sada Mohammed
College of Physical Education and Sports Sciences, Al-Qadisiya University , Iraq**

Abstract

The research has contained several axes and it has been emphasized on the axis of measurement of spatial cognition in the research sample and its connection with to the level of performance of the skill of front repel blow of the badminton whereas a test was constructed to measure the cognitive skill of each member of the sample , also the researcher used Luay Al-Bakri's test to measure the level of skill performance of the front-end blow. After the tests were completed, the statistical results were extracted which showed that there is a significant correlation between the level of spatial cognition and the level of skillful performance of badminton players.

Keywords: spatial perception, skill.

Introduction:

It is possible to consider the badminton game as a sporting event spread all over the world for the ease of its requirements in terms of space , tools and practiced from all age groups as amateur and professional anyone can play the game and even enjoy it without having a little background about this game (1) Special skill performance and a wide range of abilities and skills, especially mental ones, because the mind occupies a large place because of the small play space and speed of performance and maneuver that may be faced by the opponent, which requires the player to interact mentally and employ all skills associated with creativity.

The consciousness is one of the important issues dealt with in the psychology of study and research as it is the fundamental pillar of human life in practice , mental, and is the basis for the process of knowledge and is shared with all other mental processes of perception, imagination and thinking, providing it with the necessary and necessary information is the main pillar in the success of any human effort, whether theoretical or practical effort applied science (2), and the cognitive has a number of the varieties and forms the most important the spatial perception which means sense of the repel of objects, any length and width and the height and depth and its position left , right and we use so many connotations that enable us to understand the spatial aspects arrangements of things in the outside world and thus helps us visual perception (3). The level of skillful performance of most sports activities in general and badminton in particular is closely related to the use of possible mental processes associated with the same skill.

The study aims to:

Recognition of the relationship between spatial cognition and the level of skill performance of the skill (front repel blow) through:

- 1- Identifying the level of spatial cognition in the research sample.
2. Measuring the level of skill performance.

The advantage of the study:

Knowledge of the contribution rate and the variable correlation (spatial perception) at the level of skill performance and include tests to measure spatial perception and level of skillful performance.

The scientific achievement :

Here Manifested the importance of research in accessing the database of the sample through knowing the relationship of spatial cognition to the level of skillful of badminton players and the inclusion of measures that measure the ability of spatial cognition and the level of performance of the skill (front repel blow) in this field. It could be considered also one of few also a few attempts to study these aspects in the field of sports and especially badminton.

The practical part:

The Field research procedures:

The researchers have used the descriptive method in the correlative relationships style to suitability and the nature of the research. The researchers chose the sample from the study community in a random stratified manner represented by students of the third grade of college of Physical Education and Sports Sciences / Al-Qadisiyah University with 150 students and 30 students were selected as a sample divided equally on (15) for both sexes.

Tests and Metrics:

- 1- The spatial perception test.
- 2 - Test the level of the performance skillful of the forward repel blow of badminton .

First: The spatial perception test:

The researcher divided the badminton field from the tested side to (5) vertical rows and (5) horizontally to form transparent squares with a length of 1.5 meters and a width of 1.20 meters in amount (25) square. In order to show the level of difficulty in the test, the researcher neglected the first five squares close to the network to become (20) square and at the start of the test assistant to throw the transmitter to the laboratory and during the maintenance between the laboratory and the assistant , The arbitrator orders (stop) The tested immediately closes its eyes and raises its head to the top and asks for the column number (1-5), the horizontal row number of (1-5) and the square number of (1-20)

according to the base and count (5) score for each correct answer and deduct its score whenever the answer moves away by one number from the correct answer and three attempts are given to each examiner then collected and divided into (3).

Second: Test the level of performance of the blow to the front:

The researcher made a reference to the examined player's place and divide the stadium into four zones for falling the badminton starting from the area (3) points and at a distance of (50) cm after the back line of the square and then the area of (5) points which is the area between the back line of the square and the beginning of the remote doubles transmitter line at a distance (76) cm followed by the area of (4) points and the occurrence after the remote pairing line at a distance of (70) cm followed by the area of (2) point between the area of (4) points which is located after the remote doubles transmission line and by distance of (70) cm followed by the area of (2) points which sited between the area of the (4) points and ends in the imaginary line down the rope and when sending the badminton to the tested by the assistant, the tested blows the badminton to forward repel blow and send it over the network and rope , the points are calculated where it falls in any place of the four regions , no points are given if the badminton falls off the field or under the rope, 12 attempts are given and counted the best (10) tries to the maximum limit of the attempts (50) points (4).

The scientific foundations of the tests:

The researchers designed and constructed a test that could measure spatial cognition in the research sample , the researchers keen to test in the badminton court and during the performance of the frontal shocks to match the research requirements for which the test was set up. In order to ensure that the test is suitable for use and according to scientific foundations, the researchers extracted the empirical basis for the test (honesty, consistency and objectivity) by conducting an exploratory experiment on a sample from the outside of the research sample and from the same community to learn about the pros and cons of the tests that the researcher may encounter during work (5), in order to obtain a good measure of honesty and consistency (6)

The researchers also used a test (Loay Bakri) to measure skill blow forward for badminton .

Honesty: One of the most important characteristics of the standard of the scale agreed by specialists in the measurement of psychological integrity and reliability, depending on the accuracy of data or grades obtained from the psychological standards (7).

The researchers used a questionnaire for referees with experience and specialization in the fields of psychology, tests, measurement and badminton. The number (10) to take their views in terms of validity of the test to measure the skill of spatial perception and modify what they see fit. The test was approved by the current status of all ten experts. as shown in table (1).

Table (1) shows the validity of the tests

No.	Test	Number of arbitrators	Fit	Not fitting	K2 Value	Level of significance
1	The spatial perception	10	10	0	10	0.001565
2	Skills of front repel	10	10	0	10	0.001565

Stability: The fixity stability means that if the same subjects are re-tested under the same conditions and variables, it gives the same conditions and variables, and it gives the same results or may be close (8). To extract the stability of the test, the researchers used the test and retest method on a survey sample consisting of (10) tested of both sexes, 5 males and 5 females, under the same conditions and timing. The first test of spatial cognition took place on 17/12/2018, (24/12/2018). The test of the forward blow was performed on (18/12/2018) and the test was repeated on (25/12/2018). The coefficient of statistical stability was calculated by extracting the simple correlation coefficient Pearson and the correlation was high between the two tests, Stability is also high, as shown in the following table:

Table (2) shows the coefficient of correlation of test stability

No.	Test	Medium 1	Medium 2	Deviation 1	Deviation 2	stability	Correlation square
1	The spatial perception	11.696	11.695	1.035688	1.138608	0.8151	0.664388
2	Level of performance	31.8	31.9	9.542886	8.359293	0.962189	0.925808

Main experience: After the confirmation of the validity of the tests and solid scientific foundations .The researchers conducted the main experiment on a sample of (30) tested of both sexes and 15 males and 15 females. The spatial cognition test was conducted on the sample on 2/1/2019. 3/1/2019). After the results were unpacked and statistically computed, the results were significant by the effect of the spatial cognition skill on the forward repel blow.

The statistical means:

The statistical program was used spss.

Results and discussion:

After the researchers emptied the results of the main tests and processed statistically and for the purpose of evaluating the performance of the skills of spatial perception and frontal repel blow od badminton which has been analyzed data using the statistical bag (spss) (9), and the results have been shown to a significant correlation between the skill spatial perception and level The performance of the front-end trampoline skill, Table (3) and (4) show this.

Table (3) shows the statistical results of the spatial cognition test of the sample

No.	Arithmetic mean	Hypothesis Average	Differences average	standard deviation	Standard error	Calculated t value	Degree of freedom	Level of significance
30	11.83	11.5	0.33	1.88	0.34	0.96	29	0.34

Table (4) shows the statistical results to test the level of skill performance

No.	Arithmetic mean	Hypothesis Average	Differences average	standard deviation	Standard error	Calculated t value	Degree of freedom	Level of significance
30	35.53	36	0.00333	8.24	1.50	0.002	29	0.998

The researchers then set the standard levels of the skill performance of the sample and through the followed scientific methods, and thus the researchers achieved the second goal of the research and thus the test has a good standard characteristics and in order to facilitate the procedures were presented in a table and as follows:

Table (5) shows the levels, the achieved number and the achieved percentage to test the level of skill performance :

NO.	Label for level	Term	the achieved number	achieved Percentage	Arithmetic mean	standard deviation
1	Very low	27.6-22	6	20	35.533	8.249
2	Low	33.2-	7	23		
3	Average	38.8-	7	23		
4	High	44.4-	4	13		
5	Very high	50-	6	20		
			30 TESTED	100		

It has been shown that the mean of the sample is located in the central region ie the sample is of average level , the researchers attributed this to the fact that the sample are

students of the Faculty of Physical Education and sports sciences and not players clubs or teams. In order to achieve the third goal of the research the researchers have extracted the results of a multiple correlation between the (cognitive and performance) of the variable input ratio questionnaire with the performance level, the results show that there is a correlation between the spatial variable and the performance level, as in Table (6).

The researchers attribute that correlation to the fact that the badminton game is individual and fast-acting needed a great mental abilities to achieve better performance and down to the achievement of those processes are the skill of spatial cognition where it requires , the skillful player must always be aware of his existential position within the arena and distance and proximity to the network so that he can maneuver and deceive the opponent and counter rapid and multi-directional opponent strikes and diversification ,in the exercise of the skill forms they will have the ability to recognize the stimuli (10).

Table (6) shows the percentage of contribution of variables

Variables	Arithmetic mean	standard deviation	Connection	Contribution Ratio	Modified Share Rate	calculated F value	Degrees of freedom	Level of significance
Performance level	35.5333	8.24928	0.66000	0.438	0.397	10.540	2-27	0.000
Spatial perception	11.8303	1.88111						

Since the percentage of the contribution has been shown to the researchers, they have shown the predictive value of the variables and the proportion of their correlation with the level of performance, as in Table (7) where through this equation we can know the proportion of performance of students or players and labs by entering the laboratory data test spatial perception to show us what the result His skill level with the frontal impact of the plane feather according to the predictive equation.

Table (7) shows the predictive value of variables

Variables	B Value	Standard error	T Value	Level of significance
Fixed	-4.229	8.746	-0.484	0.633
Spatial perception	2.517	0.633	3.976	0.000
-4.229+2.517(spatial)=(level)				

After extracting the percentage of contribution and predictive values, the researchers decided to work out statistical tables to compare and know the differences between males on the one hand , females on the other hand , for tests and research's' variables.

It has been clarified that there is a significant difference in the testing of spatial perception and for the benefit of females and a very small difference from males and the researchers attributed this difference to the nature of the social composition of females as they tend more by virtue of their home to arrange and put things in places allocated without absurdity, the spatial perception exists in all people and scientists have seen it is an innate property (11), while the difference was not significant in the tests of the level of skill performance, which shows that the sample is equal in level of skill performance and as the following table:

Sexes	Variables	Arithmetic mean	standard deviation	Connection	Level of significance	calculated T value
Males	Spatial perception	11.04133	1.889595	0.739866	0.018727	2.495877
Females	Performance level	37.8	6.493953	-----	0.134743	1.540179
Males	Spatial perception	12.61933	1.557367	0.870596	0.018727	2.495877
Females	Performance level	33.266	9.369	-----	0.134	1.540

Conclusions:

That of spatial perception percentage of the contribution of the correlation between the level of skill performance for badminton players in general and for the skill of blow forward in particular being a particularly important mental skill with quick individual games we can predict the level of skill performance for players through their cognitive level.

The researchers recommend the trainers and teachers to pay attention to the development of the skill of spatial recognition of badminton players through training to train the skill of spatial awareness and enhance the trainees, which reflected positively on the level of skill performance of players.

Recommendations:

The researchers recommend the trainers and teachers to pay attention to the development of the skill of spatial perception for badminton players through special exercises by training the skill of spatial cognition and strengthening the trainees, which is reflected positive on the skill level of the players.

References:

- 1- Amin Anwar Al-Khouli: Badminton, Cairo, Dar Al-Fikr Al-Arabi, 1994.
- 2- Ali Mansour and Amal Ahmed: Psychology of Cognition, Damascus, Damascus University Press, Faculty of Education, 1996.
- 3- Amal Al-Ahmad: Experimental Psychology, C1, Damascus, Al-Wahda Press, 2006.
- 4- (Don.R. & Joseph.G. & R.J.1987) quoted by Moeen Mohammed Taha, The Effect of a Training Program on the Different Kinds of Speed in Developing Badminton Skills. PhD thesis, Baghdad University, Faculty of Physical Education, 2001.
- 5 - Dhafer Hashim Al-Kazemi: practical applications for writing messages and educational and psychological messages, Beirut, Dar al-Kuttab al-Alami, 2013.
- 6 - Ameer Hussein Ali Omran: Building a training program for supervisors specialized in physical education in light of the requirements of TQM, PhD thesis, University of Babylon, Faculty of Physical Education, 2013.
- 7- Amer Saeed Al-Kikani and Ayman Hani Al-Jubouri: Practical Uses of Psychological Tests and Metrics, Najaf Al-Ashraf, Dar Al-Diaa, 2016.
- 8- Qasem Mandelawi (and others): Tests, Measurement and Evaluation in Physical Education, Mosul, Higher Education Press, 1989.
- 9- Wadih Yassin and Hassan Mohammed Al-Obaidi: Statistical Applications in Physical Education Research, Mosul, 1, Mosul, Dar Al-Kuttab for Printing and Publishing, 1996.
10. Richard A. Schmidt Craig A. Weisberg. Motor Learning and Performance, Second edition, Human Kinetics, p234, 2000.
- 11- Adnan Salim Ayed, The Spatial Capacity of Elementary School Students and Related Variables in Mathematics, Journal of the College of Education, UAE University, No. 13, Vol. (10), 2001.



Indian Journal of Public Health Research & Development

Institute of Medico-Legal Publications

Unit No.1704, Logix Office Tower, Sector-32, Noida-201301 (Uttar Pradesh) India • Tel.: 0120-4294015
Mobile: +91-9971888542 • Email: editor.ijphrd@gmail.com • Website: www.imlp.in

No8099/IJPHRD/2019

16-02-2019

To
Prof. Dr. HishamHindawiHowaidi,
College of Physical Education and Sports Sciences,
Al-QadisiyaUniversity , Iraq

Dear author/s

I have pleasure to inform you that your following Original Article has been accepted for publication in Indian Journal of Public Health Research and Development

**The Spatial Perception as an connotation to the performance level of the forward
repeel blow of the badminton**


HishamHindawiHowaidi¹, Asaad Ali Safih², Alaa Abdul Sada Mohammed²

1. Professor, College of Physical Education and Sports Sciences, Al-QadisiyaUniversity , Iraq
2. Assistant Professor, College of Physical Education and Sports Sciences, Al-QadisiyaUniversity , Iraq

It will be published in Volume 10, No.4, April 2019 issue. It is further mentioned for your information that our journal is a double blind peer reviewed indexed international journal. It is covered by Index Copernicus (Poland), Indian Citation index, Google Scholar, CINAHL, EBSCOhost (USA), EMBASE (Scopus) and many other international databases. The journal is now part of CSIR, DST and UGC consortia. The Journal is index with Scopus and fulfills MCI Criteria as per MCI circular dated 03/09/2015.

With regards

Yours sincerely


Prof R K Sharma

Editor

