



RESEARCH ARTICLE

The Contribution Rate of Some Mental Abilities Accurately to the Performance of the Stabbing Movement with the Epee Weapon

Anwrar Majid GOUDA¹ and Noor Hatem ALHADDAD^{*2}

¹University of Baghdad, Physical Education and Sport Sciences College for Women, Baghdad, Iraq

^{*}Corresponding author: noor@copew.uobaghdad.edu.iq

Abstract

The research assumed that there is a differentiated contribution to mental abilities (concentration of attention, diversion of attention, perception of the sense of purpose) on the performance of the stabbing movement with the Epee weapon, so the research sample was chosen from the original community, represented by the fencing team for students of the College of Physical Education and Sports Sciences for girls / University of Baghdad, which numbered (20) players and adopted the intentional method in selecting the sample, where we excluded the students who participated in the exploratory experiment, which numbered (4) students. Hence, the research sample became (16) students from the original community. The tests under study have been conducted on them. classification and treated statistically and then concluded the existence of a significant correlation between mental abilities and the accuracy of the performance of the stabbing movement with the Epee weapon. as well as a high contribution rate of mental abilities to the accuracy of the performance of the stabbing movement. In light of the results reached by the two researchers, the need to pay attention to mental abilities in the sports field in general and in the sport of fencing in particular, with the development of a special training curriculum to develop those abilities. The effect of mental abilities in other sports and on different samples, more studies were conducted on the percentage of the contribution of mental abilities of different variables to the level of physical performance and skills in fencing.

Keywords

Contribution rate, Mental abilities, Stabbing movement, Epee weapon

INTRODUCTION

Fencing with weapons is one of the oldest known sports, which is the use of weapons in different ways and methods through defense and attack movements between the competitors, as each of them tries to score touches (points) within the limits of the target of the weapon and the laws agreed upon within the specified time (Maarib & Fatimah, 2022). In the competition between duelists, the ability of the fencer to exert effort and achieve victory depends on many variables, the most important of which are mental, physical, and muscular abilities, through which advanced results can be achieved, the player must be integrated physically (Noor & Fatimah, 2012). psychologically and skillfully can get good results

in competitions this sport is characterized by the speed of attack towards the opponent suddenly, and accuracy in directing the fly of the weapon to the opponent's goal, to obtain a touch, any weakness in mental abilities causes weakness in accuracy getting the touch and thus not achieving the desired results in the competitions, Competitions. This sport is characterized by the speed of attack towards (Wafa & Fatimah, 2012).

the opponent suddenly, and accuracy in directing the fly of the weapon to the opponent's goal, to obtain a touch, any weakness in mental abilities causes weakness in the accuracy of obtaining the touch and thus not achieving the desired results in the competitions, mental abilities like the rest of the abilities that are supposed to be interested in every coach in the field of sports

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training are such as physical and skill abilities in importance and no less important than mental abilities (Zeina & Fatima, 2021). Hence, the importance of research in identifying the most important mental abilities and the percentage of their contribution to the accuracy of the performance of the stabbing movement with a shish weapon for fencing players for students of the College of Physical Education and Sports Sciences for Women / University of Baghdad to focus on them by coaches to reach the best results in sports competitions.

A lot of studies, field research, and laboratories dealt with most of the physical abilities of the game of fencing, which have a direct impact on the development of the physical aspect to upgrade the technical and skill side, but most of these studies with training curricula based only on the development of special physical abilities, skill and mental, and to obtain advanced results we must pay attention to the points that have not previously been observed by the coaches and that affect the results and level of the player, which is knowing the percentage of the contribution of both mental abilities in performance and thus employed within the training units, the game of fencing needs special abilities that the coach must know and focus on in the training units to obtain good results.

Identify the most important mental abilities (concentration of attention, diversion of attention, perception of sensation - target) that affect the accuracy of the performance of the stabbing movement with the Epee weapon. Identify the contribution rate of mental abilities that affect the accuracy of the performance of the stabbing movement with the Epee weapon.

There is a different contribution ratio of mental abilities (concentration of attention, diversion of attention, perception of the sense of the goal) in the accuracy of the performance of the stabbing movement with the Epee weapon. The existence of a statistically significant correlation between mental abilities in the accuracy of the performance of the stabbing movement with the Epee weapon.

MATERIALS AND METHODS

Research Methodology

The researcher used the descriptive approach in the method of correlation relations to suit the nature of the problem.

Research sample

The research sample was selected from the original community, represented by the fencing team for students of the College of Physical Education and Sports Sciences for Girls / University of Baghdad, which numbered (20) players and adopted the intentional method in selecting the sample, as we excluded the students who participated in the exploratory experiment, numbering (4) students. Hence the research sample became (16) from the original community.

This article's necessary ethics committee permissions were obtained with University of Baghdad College of Physical Education and Sports Sciences for Woman Ethics Committee Commission Date: 15.01.2024 Issue/Decision No: 2024/1. Participant provided informed consent, with the volunteer form covering research details, risks, benefits, confidentiality, and participant rights. The research strictly adhered to the ethical principles of the Declaration of Helsinki, prioritizing participant's rights and well-being in design, procedures, and confidentiality measures.

Tests used in research

Tests of mental abilities

The researcher presented a questionnaire form to nominate the appropriate test to measure muscular abilities in the game of fencing to a group of specialists for the game of fencing also presented the questionnaire form to nominate the appropriate test to measure the degree of concentration and divert attention to a group of experts in sports psychology supplement (1,3,5).

Test (Borden Anfimov) to measure the concentration of attention (Albeik, 1978).

The study required measuring the concentration of attention, which is known as (Borden – Anfimov), and this test is one of the advanced tests for athletes to measure five manifestations of attention (sharpness - focus - distribution - conversion - stability)

Components of measurement

The scale shown in Appendix (7) is a sheet containing (31) lines of Arabic numbers distributed in the form of groups each group consists of (3-5) numbers and each line contains (10) groups, that is, the total number (40) numbers, that is, the test contains (1240) numbers, has been developed in a codified order and sequence as it

was taken into account in its status to be irregular in its distribution and unequal to avoid the possibilities of memorization.

Method of applying the scale

The test is explained to the tested players through their observation of the scale sheet as follows: - Look at the paper in your hands so that you notice the numbers and structures in a good way and try to search for the numbers you are required to write off by putting an italic line on them with pencil, and the tester to take into account the accuracy and speed as much as possible because the duration of the test (one minute) only, where he writes off each group ends with the two numbers (97) and begins with the lines one after the other and from the left to Right, the test begins with the word (I prepare) and when hearing it, the laboratory takes the test paper placed in front of it in an inverted manner that gives the word (I start), so the player crosses out the required numbers and at the end of the test time, which is (one minute) the word (stop) is given, then the (laboratory) puts a line under the last group he reached. This test is performed twice, the first in a quiet place, the second in the presence of a codified sound stimulus, and at the time the word (start) is given, the researcher operates a distracting voice recorder.

Test (Borden – Envimov) to measure the diversion of attention

Aim of the test: to identify the ability of players to divert attention.

Components of measurement

The scale placed in Appendix (7) is a form containing (31) lines of Arabic numbers, each line contains forty numbers, so the test contains (1240) numbers, the numbers in each line consist of groups placed in a codified manner and each of them consists of 3-5 different distribution and order to ensure that they are not saved by the laboratory.

Performance specifications

When the signal (start) the player quickly starts searching for the number (83) and writes it off with a slash when hearing the command (allowance), the player puts a vertical dash and moves to delete the number (49). When hearing the word "stop", the player puts the headline. The command (allowance) gives every (30) seconds / note the test time is two minutes

Sensation perception test – aim

Test objective

Perception of sensation - aim

Used tools

Front-back distance perception measuring device as a sign, eye mask, and fencing weapon.

Sensation perception test – aim

Test objective: Perception of sensation - aim

Used tools: Front-back distance perception measuring device as a sign, eye mask, and fencing weapon.

The use of aim for stabbing

It is five overlapping circles and its area is increasing ascending, the diameter of the small circle (is 2.5) cm followed by (5 cm, 7.5 cm, 10 cm, 12.5 cm, and 15 cm) and the target is determined on a paper drawn by circles of different diameters, and behind the paper there is carbon to print the player's stabs in the paper drawn circles, and the data of each player is written on his target sheet.

Method of describing to performance of the test

The player stands in front of the sign in the cohesion position (sixth) when the start signal is given, the player performs the skill of stabbing the arm straightening from the stimulation position, allowing the player to make three attempts while he is sighted to the target, then the tester blindfolds his eye, and then performs three attempts for the main experiment.

Test of the accuracy of the stabbing movement:

(Makki et al. ,2006).

Test description

The laboratory stands in a standby position in front of the overlapping circles that are placed in front of him and when hearing the word Start performs (10) consecutive stabs at full speed with an emphasis on accuracy.

Recording method

Accuracy is recorded by recording the touches that the laboratory hits on the overlapping circles, as it records the circle number for each attempt and the result is ten attempts and then takes the arithmetic mean for it.

Exploratory experiment

The researcher conducted this exploratory experiment on 28/2/2023, at exactly ten o'clock in the morning in the fencing hall at the Faculty of Physical Education and Sports Sciences on (4) players, and the researcher applied the tests after making measurements for the tests to reach the following.

Knowing the obstacles that the researcher encounters when conducting the main experiment. Determine the accuracy and validity of measurements and tests for research. The extent to which the research sample understands the tests used. Install the tasks of the assistant team. Ensure the validity of the tools and the suitability of the place to carry out the tests. Overcoming the errors that occur in the main experience.

Scientific foundations of the test

The researcher adopted the scientific foundations in the tests to determine the validity of these selected tests, i.e. the extent of their truthfulness, stability, and objectivity.

Validity of the test

The tests vary in the levels of validity depending on their approach and distance from the estimate of the attribute that aims to measure, and because validity is not absolute, but varies from

one test to another the researcher deliberately used virtual validity within the sincerity of the content the researcher has verified this validity with the help of a group of experts, the percentage of agreement was taken more than (75%) of their opinions and adjustments were made in the light of their observations on them.

Reliability of the test

To find out the reliability of the test, the researcher used the method of re-testing, that is, "if the test is reapplied to the players themselves, it gives the same results or close results." (Abdul Majeed ,1999) the researcher applied the tests on 2/3/2023 and on a sample of (4) fencing team players who were selected deliberately, then the test was re-applied on 9/3/2023, as the reliability was extracted using the simple correlation coefficient as shown in table (1).

Table 1. Shows the reliability coefficient and correlation significance of the tests.

S	Vocabularies of test	Reliability	Significance
1	Attention Focus	0.81	Sig
2	Attention Diversion / First 30 Seconds	0.89	Sig
3	Attention Diversion / Second 30 Seconds	0.91	Sig
4	Attention Shifting / Third 30 Seconds	0.93	Sig
5	Attention Diversion / Fourth 30 Seconds	0.88	Sig
6	Sensation Perception Test – aim	0.96	Sig
7	Sensation Perception Test – aim	0.90	Sig

It is noted from the table that all the values of the correlation coefficient were greater than the tabular value (r) of (0.00) under the significance level (0.05).

Objectivity of the test

The researcher used a clear and understandable test by the testers, as the recording was made using units of measurement, which are (time, degrees) so this test is of good objectivity, as "the test with good objectivity is the test that removes doubt and disagreement by the testers when applied – (Abdul Majeed ,1999)

The main experiment

The research tests were applied on the days 13/3/2023 until 15/3/2023 and within the following sequence

The first day: Applied tests of mental abilities were conducted on 13/3/2023 in the fencing hall, Faculty of Physical Education and Sports Sciences.

The second day: The researcher conducted the test on the accuracy of stabbing the performance with

the Epee weapon on 14/3/2023 in the fencing hall, Faculty of Physical Education and Sports Sciences.

Statistical Methods

SPSS package program was used in the statistical analysis of our research. It was determined by the normality distribution and skewness coefficients of the data. Significance level was determined as P 0.05 and all data were presented as mean standard deviation (SD) unless stated otherwise. The Pearson correlation test was used to measure the relationship between the various variables in this study. Anova was used to compare the scores obtained from the measurements according to categorical variables.

RESULTS

Presentation, analysis, and discussion of the results. Presentation, analysis, and discussion of the results of the research variables under study.

Table 2. Shows the arithmetic means and standard deviations of the variables under study

Variables under consideration		Unit of measurement	Mean	Std. Deviation
Mental abilities	Attention Focus	Sec.	13.33	1.21
	Attention Diversion / First 30 Seconds	Sec.	9.00	1.79
	Attention Diversion / Second 30 Seconds	Sec.	6.83	2.48
	Attention Shifting / Third 30 Seconds	Sec.	8.33	2.58
	Attention Diversion / Fourth 30 Seconds	Sec.	5.33	2.16
	Sensation Perception Test – aim	No.	6,4	1,54
Skill performance	Stabbing motion accuracy	degree	8	1.18

Presentation and analysis of the results and discussion of the correlation and the contribution rate of some mental abilities to the accuracy of the

performance of the stabbing movement with the Epee weapon.

Table 3. Shows the value of the link and contribution rate of mental skills to the accuracy of the performance of the stabbing movement

Statistical means	Correlation coefficient value	Error level	Contribution rate	Adjusted value of contribution rate	Correlation significance
Attention Focus	0.65	0.00	42%	38%	sig
Attention Diversion / First 30 Seconds	0.89	0.00	79%	78%	Sig
Attention Diversion / Second 30 Seconds					
Attention Shifting / Third 30 Seconds					
Attention Diversion / Fourth 30 Seconds					
Sensation Perception Test – aim	0.93	0.00	88%	87%	Sig

P<0.05

DISCUSSION

Table (3) showed that the value of the correlation coefficient between the concentration test of attention and the accuracy of the performance of the stabbing movement amounted to (0.65) and the contribution rate was (42%) and the adjusted value of the contribution rate was (38%). Continuous, in addition to the effect of wearing a fencing mask on the level of attention (Al- Haddad, AlTaie & Al-Yasiri, 2022) .

This superiority is logical as one of the most important manifestations of attention that proves its impact on the level of performance in sports activity is the process of focusing attention, that "focusing attention affects the accuracy, clarity, and mastery of the technical aspects of the parts of the motor skill" (Abdel Fattah ,1982) and that the value of the correlation coefficient between the attention diversion test in the accuracy of the performance of the stabbing movement amounted

to (0.89) with a contribution rate of (79%) and the adjusted value of the contribution rate was (78%).

This means that the correlation between the attention diversion test in the accuracy of the performance of the stabbing movement was significant correlation when compared to the tabular value of (0.49) at the degree of freedom of 14 and the probability of error (0.05), the researcher attributes the reason for this to the existence of a moral relationship because it is an important ability that every athlete must have and have a good attention shift (Maarib & Fatimah, 2022) . In the sport of fencing, the player is in front of one opponent wearing white clothes, and the value of the correlation coefficient between the test of perception of sensation - goal in the accuracy of the performance of the stabbing movement amounted to (0.93) and a contribution rate of (88%) and the adjusted value of the contribution rate (87%). (Abod & Alhaddad, 2022)

This means that the relationship between the test perception of the sense - the goal in the accuracy of the performance of the stabbing movement was a significant correlation when compared to the tabular value of (0.49) at the degree of freedom 14 and the probability of error (0.05), and the researcher attributes the reason for this to the nature of performance requires the player an important and influential ability to perform the competition which is the ability to perceive the sense - the goal the player needs this ability when performing the stabbing movements carried out by the attacker to get a touch, it is important throughout the competition as a result of tracking the opponent's offensive and defensive movement and blade movements as well as target areas, Alan Perman mentions that this ability is important, especially for sports that require high concentration and speed of movement (Fatima et al., 2017).

In addition, it is clear from the above table that the percentage of perception of the sense of the goal got the highest percentage of contribution, amounting to (88%) because the movements of fencing, in general, must be characterized by accuracy in performance and highlights here the importance of speed and occurrence in the implementation and performance of these movements of the player fencing, whether in the movements of attack, or the movements of defense and for this the perception of the sense - the goal is an important characteristic, which led to the emergence of a high contribution rate in the accuracy of the performance of the movement of stabbing when It is of great importance (Maarib & Fatimah, 2022). He pointed out that the sport of fencing develops in its practitioners a sense of patience and deep balanced thinking, as it thus gives a wide scope for perception and thinking, and comes in second place shifting the focus of attention, as it obtained a contribution rate of (79%) because the cognitive and technical experiences that characterize the players at the technical and competitive level, which requires more attention to divert attention to contribute to achieving achievement and the championship, which pushes them to pay attention to the manifestations of attention, accuracy, and

Ethics Committee

This study was performed by adhering to the Helsinki Declaration. Ethical approval of the study

concentration when performing skills. For any of the basic skills in the game of fencing with a shish weapon to reach them to the best-desired levels (Aziz & Al-Haddad, 2022).

As for the concentration of attention, it got the lowest contribution rate of (42%) during field applications that concern each concentration of attention and the sport of fencing the researcher noted that the focus of attention is consistent with the definition of attention concentration indicates that it is a directive of psychological activity towards one thing or one activity only, the smaller the area of the target to which the touches are directed, the greater the concentration of attention, as the target allowed to touch in the Epee weapon is the smallest space targets in a game Fencing (Fatimah & Susan, 2015).

Conclusions

Through statistical treatments and results obtained by the researcher, the following conclusions were reached. The existence of a moral correlation between mental abilities and the accuracy of the performance of the stabbing movement with the Epee weapon. A high contribution rate of mental abilities appeared in the accuracy of the performance of the stabbing movement.

Recommendations

In the light of the results reached by the researcher, he makes the following recommendations. The need to pay attention to mental abilities in the sports field in general and in fencing in particular, with the development of a special training curriculum for the development of abilities. Conduct more studies that deal with the impact of mental abilities in other sports and on different samples. Conduct further studies on the contribution rate of mental abilities of different variables to the level of physical performance and skills in fencing.

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Conflict of Interest

We declare that this article we wrote is not involved in any conflict of interest. was obtained from University of Baghdad, Iraq Ethics Committee at the board meeting dated 15.01.2024 and numbered No:1

Authors Contribution

Study Design, AMG and NHA; Data Collection, NHA and AMG; Statistical Analysis, NHA and AMG; Data Interpretation AMG and NHA Manuscript Preparation, NHA and AMG; Literature Search, AMG and NHA. All authors have read and agreed to the published version of the manuscript.

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Appendix No. (1)

Mr.

Greetings, the researcher conducts his research tagged (ratios of the contribution of some mental abilities in the accuracy of the performance of the stabbing movement with the Epee weapon) on the female team of the College of Physical Education and Sports Sciences / Muthanna University for fencing, and given your experience and scientific know-how, the researcher requests you to thank you for assisting with the nomination of the most important mental abilities through your experience in this field.

With appreciation

Note:-

When nominating the mental abilities that you deem necessary, please put a score ranging between (zero - 5) in the designated box, noting that the lowest score is (zero) and the highest score is (5) degrees with an estimate:

Mental abilities	Grade according to importance						Notes
	0	1	2	3	4	5	
Attention							
intelligence							
thinking							
stability attention							
concentration attention							
sensory motor perception							
conversion attention							