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## "The speed of timing response and its correlation to the performance and speed of counter-attack in the sport of fencing"

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### Abstract

Fencing sport is an individual game that requires a lot of abilities. Fencing is like any other sport that depends on performance on several functional and kinetic competencies, since any motor activity is closely related to a dynamic response that may be rapidly defensive reaction to the response, Close "to the work of counter-attack by the competitor so you see that the athlete is striving to access the functional and physical organs of the high adaptation as reflected positively on the speed of motor response in general, which leads to the absorption of counter-attack correctly and the work of defense and repel correctly and therefore to reach the required level, which urged the researcher to study this problem needs a lot of physical abilities, mobility and skill and each game has its own specificity in those capabilities, as for the sport of fencing, it needs to continuously on many of the motor capabilities and these capabilities is the speed of motor response, which is often used During the game and through the movements of the opponent and the correct timing of the speed of response and response and most of the touches in the game depends on the correct timing in performance by both competitors, the learner who has a rapid motor response is strong performance and timing is true. Students have a weakness in the timing of the attack when the counter attack, which led to weakness that the speed of their motor response is weak because most of the movements in the counter attack depends on the movement of the competitor, which means the first stimulant, like it implements the correct timing to respond and respond in the strike and time attack The researcher's importance is to study the relation between the speed of the timing response and its relation to the performance and speed of the counterattack by the quality of the stop attack and the counter-timing attack in the fencing sport of the students of the third stage, which prompted the researcher to study the problem. The purpose of the research is to identify the response speed of the direct and indirect response in the same eye, to identify the performance and speed of the counter attack (stop attack and counter attack).



As for the research, there is a positive correlation between the speed of response of the timing of the attack and the counter-attack performance of the students of the fencing, and (20) students chose to represent the sample in the random manner. Thus, the research sample of (20) students was (33.33) of the society (60) students took the average lengths (163-176) cm, and average weights (64.3 - 79.7) kg, who are the tests on them and used the descriptive method of research and the data was processed statistically and through the results, A correlation relationship with significant statistical significance between the speed of the timing response and the direct response T the time of attack performance of the suspension and the presence of a statistically significant correlation between the speed of rollback indirect response time and performance of the anti-attack time. There is no statistically significant correlation between the performance of the stop attack and the speed of the direct response. There is no statistically significant correlation between the performance of the counter-attack and the direct response. There is no statistically significant correlation between the performance of the counter-attack and the speed of indirect response. The recommendations were to test the speed of the response periodically to assess the level of players, which helps to develop the curricula of learning and training based on scientific and objective basis. The use of exercises that help to respond quickly to serve the sport of fencing because it requires high speed in repelling the opponent's attack and from a very close distance .No studies on the level of offensive performance and response speed because the response speed has no impact or relationship in the level of performance.

**Keywords:** Response, performance, counter-attack and fencing.

### **Introduction:**

Sports activities play a large role in various areas of life, whether human, social or educational, where this importance has been evident in recent years and years through the development of the lives of nations and peoples. And follow the course of sports movement in Qatar will note the change is prominent and clear as part of the state of the comprehensive advancement of various aspects of life as measured by our athletes at the level of Arab and international, and in this research will address the game of fencing, where the game of fencing of old and ancient sports at the roots of the return To the great fathers and grandfathers for thousands of years, in the beginning of mankind was bound by something that compensates for the deficiency complex in his life without weapons of self-defense alternately for this compensation emerged the importance of individual or collective concessions for survival and the historical hierarchy Its ancient game and got to what it is now it is the evolution of the past mixed with the present game and this game, coupled with the courage and bravery are still so far and did not show the level that is consistent with their originality and roots.[1]

Fencing is like any other sport that depends on performance on several functional and motor competencies, since any motor activity is closely related to a dynamic response that may be rapidly defensive reaction to the shock or response or back and this is closely related to "the action of counter attack by the opponent so see That the athlete strives to reach his functional and physical equipment for high adaptation as reflected positively on the speed of the motor response in general,



which leads to the absorption of counter-attack correctly and the work of defense and repel correctly and thus reach the required level.[2]

Therefore, the importance of the researcher to study the relationship between the speed response timing and its relationship to the performance and speed of counter-attack the quality of the attack stop and counter-attack time in the sport of fencing in the students of the third stage.

### **Research problem:**

The sport of fencing needs a lot of physical abilities, mobility and skill, and each game has its own specificity in those capabilities. As for the sport of fencing, it needs continuously on many of the motor abilities. These abilities are the speed of the motor response, which is often used during the game through the movements of the opponent and the correct timing for the speed of response and response and that most of the touches in the game depends on the correct timing in performance by both competitors, the learner who has a strong motor response speed is the performance and timing is correct, and that the researcher noted that most students have a weak timing of the response when the performance of the offensive Which leads to weakness that the speed of their motor response is weak because most of the movements in the counter-attack depends on the movement of the opponent, which means the first stimulant, like the same implementation of the correct timing to repel and respond in the strike and counter-attack time are two types of counter-attack.

### **Research objectives:**

1. Identify the response speed of direct and indirect response timing in the eye of the research
2. Identify the performance and speed of the counter attack (stop attack and counter-attack) in the research sample
3. Know the relationship between the speed of response timing of the shock with the performance and speed of counter-attack in the sample fencing.

### **Research hypotheses:**

There is a positive correlation between the response speed of the timing of the attack and the counter-attack performance of the fencing students.

### **Research methodology and field procedures:**

#### **Research Methodology:**

The researcher used the descriptive approach to suit the research problem.

#### **Community and Sample Search:**

The research community was determined for the students of the Faculty of Physical Education and Mathematical Science at the third stage, the University of Kufa / Male, which is a total of 60 students. The student also chose 20 students to represent the sample in the random way. 33.33% of the population took their average lengths (163-176 cm) and their average weights (64.3-79.7 kg) were tested.

#### **Means, equipment and tools used in research:**

#### **Means used in data collection:**

- Observation
- Benchmarks tests
- Sources and the Internet



**Instruments and tools used in research:**

- Duel Weapon Number 2.
- Head Mask.
- Balance.
- A device to measure the response speed.
- Timing clock 3.

**Field research procedures:****Tests used in research:****Response Speed Meter:[3]**

Specification of the device: This device is an Iraqi-made, and the accuracy of the measurement is (0.001) of the second and the visual (light) where the most important consideration of the game in karate as the sound is not a basic sense and calibrated the device and test proportion The error was zero and has a high degree of objectivity as it measures the time and does not give any other decision so it was presented to a group of engineers in the sections of electrons and electricity.

**How the motor speed response system works and its stages:**

Within the device there are circuits that are sensitive to the start and end time. This activates and turns off the digital clock which is based on a crystalline electron beam that is not affected by the change in temperature. It is one minute of one millionth of a second. (1.0.2.0.01) seconds, where the lowest readable is (0.001) seconds which reflect the highest speed and the highest reading is ( 9.999) seconds, which gives the least speed of movement as the work of these frequencies starts When connecting the keys responsible for the ignition of the two light triggers and the operation and buzzing of the device when the ignition of the stimulant starts the meter work and stop the work of the meter when touching one of the stimuli within the two objectives, which contain the sensor, which works to sense the movements of play and representation of reading on the clock Between the start and stop of the electron counter and also the lab work which is responsible for the lighting of one of the most exciting up or down.

**Kinetic response test:**

The purpose of the test: to measure the ability to respond to kinetics through beating or (blocking).

Instruments used: A device that measures the motor response (0.001) seconds.

Target contains a sensor carrying two lighters the first red color in the top goal and the second green color at the bottom of the goal and is considered the goal of the player.

A control box is placed on a table away from the laboratory so that the player does not see control for the pointer.

Performance specifications: The work of fencing was implemented through the following

The player stands in the standby position with the sword and at a suitable distance from the opponent to perform the challenge movement to adjust the distance to the target to perform the required skill. When the stimulus is shown, the player performs directly through the appearance of the stimulant (red light attached to the rival's weapon) Direct stabbing and stabbing in the same direction in which it was



docked and indirectly repulsed with the challenge to perform counter attack skill by strike quality to stop and counter-attack time

Performance evaluation: The counter attack (the stop attack and the counter-attack) was evaluated with three time arbitrators, each of whom was assessed by a score of 10 and scored by means of a pre-prepared form.

### First pilot study:

In order to know all the difficulties and problems facing the research, the researcher conducted the exploratory experiment on 25/12/2017, which falls on Monday (10) students in the hall of the fencing.

The goal of the experiment was:

1. Knowing the difficulties that may be directed by the researcher during the main experiment.
2. Know the time taken to perform the tests.
3. Defining the team of the assistant staff of the research requirements.
4. Connect the device to measure the response speed on the weapon
5. Programming the device and checking the currency mechanism in the correct manner.

### Second pilot study:

In order to know all the difficulties and problems facing the researcher, the researcher conducted the second exploratory experiment on 28/12/2017, which falls on Wednesday to ten students in the fencing hall.

The aim of the exploratory experiment was:

1. To check offensive skills (stop attack and counter-attack).
2. To verify the time it takes to perform the skills.
3. To extract the laboratories of honesty and evidence and objection.

### Scientific foundations for tests:

To investigate the scientific conditions of the tests, the researcher verified the stability of the tests by conducting the tests and returning them after three days of their implementation on the sample of the first exploratory experiment on 28/12/2017 to confirm the stability of the test. The researcher used the simple correlation coefficient (Pearson) to see if there was a correlation between the results the tests of the first and second tests and all the results showed high correlation between (0.701 – 0.944). The self - honesty of all the tests was based on the correlation coefficients and all the tests were highly credible as shown in the table.

**Table (1)** Demonstrates the scientific basis of the tests

Tests	Purpose of test	Stability	Validity
<b>Test the speed of direct response</b>	Measuring the response speed of direct b (Sec.)	0.775	0,880
<b>Test the speed of indirect response</b>	Measuring the speed of indirect response (Sec.)	0.707	0.838
<b>Test stop attack</b>	Measure the performance of the stop attack (number)	0.853	0.944
<b>Test the counter-time attack</b>	Measure the performance of the counter-time attack (number)	0.832	0.912



The tests that are used are easy to understand, clear and non-interpretible by the benevolent, especially because they have numerical standards for the time of the device, the speed of response and the lack of performance evaluation and tests are based on it.[4] Therefore, the tests used are objective. Exceptions are the expert-based tests such as the counter-attack and the stop attack. Therefore, the researcher extracted the simple correlation coefficient (Pearson). The results showed that there were correlation coefficients to test the stop attack (0.927) T attack time counter (0812), which confirms objective tests.

### The main experience:

The main experiment was conducted on the research sample of (20) students on 8/1/2018 to measure the speed of the response of the timing of the direct response and the speed of response to the timing of the indirect response under the supervision of the supervisor and researcher and in the presence of the plant and the assistant staff and after measuring the test response speed, The research sample is a performance test and a counter-attack quality.

### Results and discussions:

#### Display the results of the direct response and the time of the stop attack performance:

**Table (2)** Shows the computational and standard deviations and the value (t) calculated and tabular between the speed of the response of the direct response and the time of the performance of the stop attack

Tests	Measuring units	Mean	STD.EV.	(r)	Result
Test the speed of direct response	Sec.	0.37	0.11	0.73	Sig.
Test the counter-time attack	Sec.	0.49	0.15		
(r)Tabulate				0.43	

Table (2) shows that the mean of the speed of the direct response is 0.37 and the standard deviation is (0.11). The mathematical mean for the time of the stop attack is (0.49) and the standard deviation is (0.15). Between the speed of the response of the timing of the direct response and the time of the stop attack performance, the researcher used the (SPSS) program to treat the results. The correlation value calculated between the speed of the direct response timing and the time of the stop attack was (0.73) while the correlation coefficient The degree of freedom (19) and the error level (0.05) indicate that the coefficient of the calculated correlation coefficient is higher than the value of (r), this shows that the less the speed of the response time of less attack suspension time because the attack suspensions require high speed with correct timing at the beginning of the movement of the opponent's attack.



**Table (3)** Shows the computational and standard deviations and the calculated and tabular value between the speed of indirect response and technical performance tests in time of counter-attack performance

Tests	Measuring units	Mean	STD.EV.	(r)	Result
Test the speed of indirect response	Sec.	0.635	0.20	0.54	Sig.
The performance of the attack time anti-time	Number	0.54	0.23		
<b>(r)Tabulate</b>				0.43	

Table (3) shows that the value of the mean of the speed of indirect response is (0.635) and the standard deviation (0.20). The mathematical mean of the time of the attack time is (0.5)4 and the standard deviation (0.23) The correlation between the speed of the response of the timing of the indirect response and the time of the performance of the counter-attack was (0.54) while the value of the correlation coefficient (0.43) and the degree of freedom (19) and the error level (0.05) show that the calculated correlation coefficient value is higher than the value of (r), indicating a moderate correlation, indicating that the average response time is greater than the time of the counter-attack performance because the counter-time attack requires a high speed with a correct timing on the end of the opponent's attack movement.

**Table (4)** Shows the computational and standard deviations and the calculated and tabular value between the speed of the direct response and the technical performance tests at the time of the counter-attack performance

Tests	Measuring units	Mean	STD.EV.	(r)	Result
The performance of the attack time anti-time	Number	68.58	25.70	0.264	Non sig.
Test the speed of direct response	Sec.	0.37	0.11		
<b>(r)Tabulate</b>				0.43	

Table (4) shows that the value of the mean of the time counter attack is (67.58) and the standard deviation (25.70). The mean of the direct response speed is 0.37 and the standard deviation (0.11) between the performance of the counter-time attack and the speed of direct response, the researcher used the (SPSS) program to treat the results. The correlation between the performance of the counter-attack and the speed of the direct response was (-0.264) while the correlation coefficient (0.43) the degree of freedom (19) and the error level (0.05) shows that the value of the calculated correlation coefficient is less than the value (r) of the table is a significant correlation.



**Table (5)** Shows the computational and standard deviations and the calculated and tabular value between the speed of indirect response and technical performance tests in time of counter-attack performance

Tests	Measuring units	Mean	STD.EV	(r)	Result
Test the counter-time attack	Sec.	67.58	25.70	0.414	Non sig.
Test the speed of indirect response	Sec.	0.635	0.20		
<b>(r)Tabulate</b>				0.43	

Table (5) shows that the value of the mean of the time counter attack is (67.58) and the standard deviation (25.70). The mean of the response time of the indirect response timing is (0.635) and the standard deviation (0.20) between the performance of the counter-time attack and the speed of indirect response, the researcher used the (SPSS) program to treat the results. The correlation between the performance of the counter-attack and the speed of the indirect response was (-0.414) while the correlation coefficient (0.43) and degree of freedom (19) and error level (0.05) show that the calculated correlation coefficient value is less than the value of (r), Which indicates a significant correlation relationship.

#### Discussions:

Any sport activity is almost without the speed of the motor response, but the need varies from one activity to another depending on the technical and planning requirements of each particular game, and shows its importance in a number of sports activities and specifically the type of attack by the opponent, The fencing is ready to face all possibilities and often does not have the time allowed by the right response, as the opponent is expected to do a certain movement and suddenly makes another unexpected movement ".[5]The response speed is defined as "a correlation between the time of the motion response and the time of movement, the time between stimulus and motor performance".[6]

This is what we see in the fencing when the attack, as the opponent is a specific movement and then to make a rapid change and the performance of other movement in the game, requiring special ability to respond to the rapid movement of the unexpected by the fencing player as in the movement of the change by changing the direction of docking and change the blade of the rival In changing the other direction, which requires a quick response by the opponent to the process of repelling and attack, which is acting in a timely manner, especially in games of deception and evasion.[7]

We conclude from the fact that the fencing of the sports that have a long history in the field of Olympic and global sports game took on the revival of history, the flavor of the present, using the traditional movements that were practiced in the past times with some of the developments to keep pace with the art of sports movements, Modern technology based on electronic techniques to include all the tools used by the player, from clothing, equipment, weapons, and arbitrators. The attack in the fencing game is the offensive movement that begins with the arm





extension and which constantly threatens the target area of the opponent's opponent. It is also known as a movement or group of movements initiated by one of the players in advance, based on the element of initiative and initiative to reach the fly of weapons to the goal of the opponent to record touches on the surface of the opponent's goal.

The researcher knows that the attack is all moves by the player in advance to the opponent, in order to threaten his goal, by extending the arm armed towards the goal and get the touch.

### **Conclusions:**

In the light of the results obtained and after processing statistically, the following conclusions were reached.

1. There is a significant correlation between significant correlation between the speed of the response of the timing of the direct response and the time of the performance of the stop attack.
2. The existence of a relationship of statistical significance between the speed of the response of the indirect response and the time of the performance of the counter-attack time.
3. There is no correlation between statistical significance between the level of performance of the stop attack and the speed of direct response
4. There is no statistically significant correlation between the performance of the counter-time attack and the speed of the direct response.
5. There is no correlation between statistical significance between the performance of the attack time counter and the speed of response to indirect response.

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