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## *The Effect of Compound Exercises (Mental – Skill) on the Development of Attention Shift Ability, Motor Response and Accuracy of Stabbing with Simple Straight Attack*

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### **ABSTRACT**

that The importance of research in Use of compound exercises (mental) – skill) In the development of Ability to Shift Attention and Motor Response and accuracy Stabbing with a simple straight attack, and it was **Research Problem** She Through the researcher's experience, he observed that fencing players do not have enough mental abilities necessary to perform the skill of stabbing with a direct direct attack, which makes it impossible for them to achieve good levels in the game of fencing. So he has Seek Researcher to Use of compound exercises (mental) – skill) In the development of Ability to Shift Attention and Motor Response and accuracy Stabbing with a simple straight attack, either **Goals Research** She Prepared by Use of compound exercises (mental – skill) In the development of Ability to Shift Attention and Motor Response and accuracy Challenge by simple straight attack, and Identifying the Statistical Differences Between Pre- and Post-Tests For my ability to divert attention and motor response And for accuracy Challenge by simple straight attack, andThe researcher used the experimental method in the One Group To suit the nature of the problem .

The research population **was determined** by the deliberate method, which are the (youth) fencing players of the category of (youth) affiliated to the Ministry of Youth and Sports in Dhi Qar Governorate for the sports season (2023-2024), which are (5) players, and they were selected **as a sample for the research** and represent (100%) of the original population, and one of the most important **conclusions** is compound exercises (mental).– skill) that had an impact on the development of the ability to divert attention and motor response.

## **1. Introduction to the research:**

### **1-1 Introduction and Importance of the Research:**

There is no doubt that the scientific research conducted by scientists, researchers and coaches helps to reach the best ways in the continuity of development, and each game or event has a special in its physical, skillful and functional requirements, as well as the mental abilities that participate in its performance. Therefore, it is necessary to work on achieving these requirements scientifically to reach the best level.

It has become clear that sports training is one of the sciences that has developed a lot and that its importance is no less important than other sciences, as we watch daily on television screens most sports and how those games reached this high level, especially the game of fencing, and that this development did not come by chance, but came after strenuous efforts through the correct scientific planning of sports training and the development of modern training curricula for the purpose of reaching the high level and keeping pace with the development in other sciences.

Excessive speed or extreme slowness, i.e. the wrong timing to divert attention, does not help the player to succeed in performance, there are some sports activities that require the athlete to combine the narrow and wide type with the internal and external type, that is, it is important that the athlete acquire the skill of diverting attention, in terms of the wide and narrow field and in terms of the internal and external direction, and it appears. The importance of this when performing open skills or when performing sports of a dynamic nature, one of these skills is the skill of simple attack with a direct straight stab, and the speed of motor response constitutes a decisive role in the game of fencing, as it resolves many situations because it is a game characterized by speed of performance, decision-making and implementation, and the difference that occurs between the player and the opponent is in the speed of the implementation of decisions, and therefore it plays an important role in the result of the fight.

From the above, the importance of research on the use of compound exercises (mental – skill) In the development of Ability to Shift Attention and Motor Response and accuracy Stabbing with a simple, straight attack.

### **1-2 Research Problem:**

The sport of fencing is one of the games that was based in its development on other sciences, it is one of the oldest known games, as the weapon is used in different ways and methods during attack and defense between competitors, so it seemed to pay attention to all the details, parts and contents of this game, as it is one of the games that require mental, physical, skillful and motor abilities, and it is one of the most important basic pillars on which the fencing player is based, as the player who does not have the necessary abilities for a specific activity. He will not be able to master the basic skills of this activity, as fencing requires the speed of attacking the opponent and, suddenly, and the precision of pointing the weapon fly at the opponent's target for the purpose of getting his touch. Scientific development has contributed to helping researchers, learners, and those in charge of the training process in the field of physical education to know the effect of sports training on the development of mental abilities and motor skills, as well as the use of appropriate training methods, methods, and application in

the field, which work positively to obtain the most appropriate motor paths, and lead to the improvement of sports technique, and thus raise the level of achievement. It is one of the conditions necessary to achieve the best level of performance in a sport once its practitioners have a certain amount of special requirements and abilities, as it is an indication of the improvement in the level of the athlete.

Through the researcher's experience, he noticed that fencing players do not have enough mental abilities necessary to perform the skill of stabbing with a direct direct attack, which makes it impossible for them to achieve good levels in the game of fencing, so the researcher sought to use compound exercises (mental – skill) in developing the ability to divert attention, motor response, and the accuracy of stabbing with a simple straight direct attack.

### 1.3 Research Objectives

- 1-Preparing the use of compound exercises (mental-skill) in developing the ability to divert attention, motor response, and the accuracy of stabbing with a simple straight attack.
- 2-Identifying the statistical differences between the pre- and post-tests of attention diversion and motor response and the accuracy of stabbing with simple straight attack.

### 1-4 Forcing Research

- 1- There are significant statistical differences between the pre- and post-tests of the research group and in favor of the post-tests.

### 1-5 Research Areas:

**1.5.1 Human Field:** Fencing players (Youth) of the Ministry of Youth and Sports in Dhi Qar Governorate for the sports season (202-3-2024).

**1-5-2 Time Zone :** 12/11/2023 to 17/2/2024

**1.5.3 Spatial Domain :** The closed hall of the Nasiriyah Model Forum .

## 2. Research Methodology and Field Procedures:

### 2-1 Research Methodology:

The researcher used the experimental method in the one-group method to suit the nature of the problem.

### 2-2 Research Population and Sample:

The research population was determined by the deliberate method, which are the (youth) fencing players of the category of (youth) affiliated to the Ministry of Youth and Sports in Dhi Qar Governorate for the sports season (2023-2024), which are (5) players, and they were selected as the research sample and represent (100%) of the original community.

### 1- 2-3 Sample homogeneity:

For the purpose of verifying the homogeneity of the sample, the researcher performed some procedures to control the variables, although the selected sample is from a similar age stage, and the coefficient of difference was used to know the reality of the difference or not, and Table (1) shows this.

Table (1) shows the homogeneity of the research sample

Divergence coefficient	Standard deviation	Arithmetic mean	Unit of Measurement	Physical Measurements	t
12.47%	2.11	16.92	Year	Age	1

5.38%	3.76	69.88	kg	Mass	2
3.69%	6.32	171.04	Poison	Length	3

The coefficient of difference is less than 30%, which means that the sample is homogeneous.

## 2-4 Means, Devices and Tools Used:

### ✓ Means of collecting information:

- International Information Network (Internet)
- Virtual Library
- Personal interviews of Iraqi experts and specialists
- Tape measure.
- Medical Scale
- Whistle
- Manual stopwatch
- DellCi7 Laptop ☉ Volleyball Court Legal
- Shotgun (5)

## 2-5 Tests used in the research:

### 1- Attention Shift Test:

The test time is only two minutes, during which the numbers (47 and 96) are crossed out, for example, in the following way:

When giving the signal to start and turn on the stopwatch, the player starts to search and finish the number (47) for (30 seconds), then giving the signal (about), the player moves to write off the number (96) for (30 seconds), and when hearing the word (about), the player moves again to write off the number (47) for (30 seconds), then with giving the signal (about), the player writes off the number (96) for (30 seconds), and thus the two minutes end.

**Method of correction and calculation of results:** The following indications are extracted:

M = The difference between the work productivity of the first thirty seconds (U1) and the second (U2 ) where:  $M = U1 - U2$

H = Difference in work productivity between ( U2 ) and ( U3 )

$H = U2 - U3$

O= The difference in work productivity between ( U3 ) and ( U4 ) since:

$O = U3 - U4$

Note that the productivity of work for ( 30 seconds) = ( U ) = E x A

So Attention Shift = 
$$\frac{O + H + M}{3}$$

### 2- Motor Response Speed Test (Raysan Khraibat M 99-100)

**Test Name:** Motor Response Speed from the Stabbing .....

**Purpose of the test:** To measure the speed of motor response from the stab movement.

**Tools:**

1. An electrical device to measure the speed of response from the stab movement (locally made).
2. An Italian-made electric weapon (shisha) with a Belgian grip.
3. A locally made wooden indicator that represents the legal purpose.
4. German-made electric vest representing the target.
- 5 seats (chairs) on which the laboratory sits.
6. Results Registration Form.

**Performance Description:**

1. The indicator shall be hung on the wall at a height of (1) m from the ground.
2. The player stands in front of the indicator at a suitable distance to perform the challenge.
3. The tester sits behind the player until he reads the performance time.
4. Electricity reaches the indicator, device and player through electricity.
5. The tester holds the button that gives the instruction to the player by means of the red (exciting) light located on the front of the indicator.
6. The laboratory gives the signal to make the stabbing movement by means of the stimulator.
7. The laboratory records all 10 attempts.
8. The arithmetic mean is extracted by aggregating the attempts and dividing them by 10 to get the final average.

**2- The accuracy of the stabbing by the direct direct attack (Raysan Khraibat Muhammad: 1998, p. 186)**

**Test Name :** Accuracy of the Stabbing Movement

**Purpose of the test :** To measure the accuracy of directing the attack from the stabbing movement.

**Tools:**

**Performance Description:** The player stands in front of the indicator in a standby position with the gun in his hand and has the weapon that is connected to the electricity behind the aforementioned line, the player starts performing the stab directly in the direction of the target (the circles in the bra), the tester gives ten attempts within fifteen seconds.

**2.6 Exploratory experiment**

The researcher conducted an exploratory experiment on Friday, 15 / 12/ 2023 at three o'clock in the afternoon on (the sample), as the exploratory experiment is used to avoid the shortcomings, while determining the place, time and duration of the experiment. (Wajih Mahjoub, 1993, p. 239)

The aim of the exploratory experiment was:

- 2- Prepare and guide the assistant team according to the research objectives.
- 3- Configure the necessary devices and tools.
- 4- Recognize the time needed for the test.
- 5- Extracting the scientific foundations of the test

**2-7 Scientific Foundations of the Test:**

**1- Test Validity:**

The researcher presented the tests to experts and specialists in the field of training, fencing and motor learning through personal interviews and their agreement on the validity of the tests as shown in Table (2).

Table (2) shows the percentage of the validity of the research tests

Percentage	Number of Consensus Opinions	Number of Experts	Exam Name	t
100%	9	9	Attention Shift Test	1
88.88%	8	9	Kinetic Response Speed Test	2
100%	9	9	The accuracy of the direct direct attack	3

## 2- Test Stability:

The researcher was used to calculate the stability coefficient (test and retest method) with a time interval between the first and second tests (7) days and The retest method is one of the simplest and is characterized by the interval of coherence because the error associated with the measurement is always more pronounced when there is an interval between the two tests from one day to more." (Ibrahim Ahmad Salameh: 1980, p. 49), the researcher extracted the stability coefficient through the correlation coefficient (Pearson) between the results of the first test and the results of the second test, and extracted the significance of the correlation. have high morale because the value of (sig)  $\geq$  (0.05) as shown in Table (3)

## 3- Objectivity:

The researcher found the objectivity coefficient of the faceted crushing test by finding the simple correlation coefficient (Pearson) between the results of the two referees\* in the first application conducted during the exploratory experiment, and the correlation coefficients were high, which indicates the objectivity of the tests used in the research, and Table (3) shows this.

Table (3) Builds the stability coefficient forthe research tests

sig	Objectivity Factor	sig	Stability Coefficient	Testing	t
0.000	0.94	0.000	0.91	Attention Shift Test	1
0.000	0.92	0.000	0.88	Kinetic Response Speed Test	2
0.000	0.94	0.000	0.89	The accuracy of the direct direct attack	3

The correlation coefficient is significant at the significance level of  $\geq$  (0.05)

## 2-8 Field Research Procedures:

### 2.8.1 Pre-tests for the research sample:

The researcher conducted the pre-tests before starting the application of compound exercises on Sunday, 24/12/2023 at three o'clock in the afternoon, and all the members of the research sample (5) players attended and the results were extracted.

### 2.8.2 Compound Exercises (Mental – Skill)

In order to obtain exercises with good effectiveness, it was necessary to review the modern sources and references in the science of sports training that

would enrich the researcher with information that helps him in developing compound exercises, so the researcher prepared the exercises for the members of the research sample based on the scientific foundations of training and to some scientific sources and references, as well as the opinions of some specialists in the field of sports training science, motor learning and fencing.

The application of the exercises started on Tuesday 2/1/2023 until Tuesday 27/2/2024 for eight weeks with three training units per week (Sunday, Tuesday, and Thursday), and the research sample was supervised by the researcher and the assistant work team.

#### **And in what comes Some special clarifications Compound Exercises (Mental – Skill)**

- The duration of the exercises is two months.
- The training stage that fits the curriculum (special preparation stage)
- The number of training units per week is (3) units.
- The total number of training units is (24) training units.
- Training days (Sunday, Tuesday, Thursday).
- Use sub-maximum and medium intensity.

#### **2.8.3 Post-tests for the research sample:**

The post-test of the research sample was conducted on Sunday, 25/2/2024, after the completion of the application period of the method, and the researcher was keen to provide the conditions of the pre-test and its procedures for the research tests.

#### **2.9 Statistical Methods:**

- Arithmetic mean.
- Standard deviation.
- Divergence coefficient.
- Pearson correlation coefficient .
- T)) test for threaded samples.
- Favorable Percentage.

### **3. Present, analyze and discuss the results:**

#### **3-1 Presentation and analysis of the results of the pre- and post-tests of the sample**

Table (4) shows the values of arithmetic medians, standard deviations, and the value of (T) calculated for the pre- and post-tests of the sample

Conclusion	Sig	T calculated	(Next)		(Qibla)		Unit of Measurement	Physical Abilities
			on	Going to	on	Going to		
Moral	0.000	10.65	0.72	7.14	0.96	4.71	Degree	Attention Shift Test



Moral	0.000	5.13	0.26	0.61	1.63	0.77	Tha	Kinetic Response Speed Test
Moral	0.000	6.37	0.72	7.75	2.18	6.53	Repeat/s	The accuracy of the direct direct attack

\*Significant at the significance level of  $\geq (0.05)$

Table (4) shows the arithmetic media, standard deviations and the value of (t) calculated between the results of the pre- and post-tests, as the results presented in the table showed that the value of the significance level in all values was (0.000), which is less than the value of the significance level (0.05), which indicates that there are significant differences between the pre- and post-tests of the sample.

### 3-2 Discussion of the Results:

Through Table (4), it appeared that there is a significant difference in the results of the post-tests of the research group, which the researcher attributes to the compound exercises (mental-skill) where the researcher took into account similar conditions to performance during the fight in the application of compound exercises in a way that simulates or resembles as much as possible conditions similar to what the player is going through. In real competition they were very effective in bringing about an evolution in the levels of mental abilities while performing the required skills." (Mehdi Fadel Mohsen Yousef: 2019, p. 63)

The researcher also attributes this significant development in the ability to divert attention to the effectiveness of the exercises in terms of their variety and comprehensiveness, which was applied by the members of the research group, "practicing the exercises in a style that is endearing to the player and with continuous repetitions leads to an increase in motivation and the desire to perform, which led to the development of the ability to divert attention as well as the motor responses of the player, his control over his movements, his perception of changing stimuli, and the speed of the player. Practice and exerting effort in training and continuous repetition are necessary in the training process, and practice and repetition are helpful and necessary factors in the process of the player's interaction with the skill, controlling his movements, and achieving consistency between the movements that make up the skill in a proper sequential performance and at an appropriate time" (Benin Najm Obeid: 2017, p. 142)

In order to develop mental abilities, especially attention deficit hyperactivity and motor response speed, compound exercises should include the following considerations:

- 1- Training using sudden situations.
- 2- Training for increasingly difficult situations.
- 3- Reaction recurrence in a similar way.
- 4- Repetitive reaction in an asymmetrical manner.

The development in the ability of motor response through exercises that contain a combination of audio and visual stimuli as well as sudden verbal stimuli and with many uses, all of this contributed to the increase of the random method in anticipating a change of direction and changing the form of performance, and thus the player reaches situations similar to the situations of fighting, the more accurate information and various stored motor programs there is, the more it means that the individual has a chance in finding the accurate and correct response according to different situations, thus helping the player to be prepared



in terms of body position and timing of readiness and to perform appropriately and correctly and accurately (Shaimaa Ali Khamis and Raed Abdul Amir Abbas: 2015, p. 254)

Introducing these stimuli to the situation of surprise or surprise may help the player to visualize the exact place of the performance, with a high speed of response, continuous observation, constant vigilance, and speed in decision-making, which reinforces what I have mentioned

Shaima Ali Khamis and Raed Abdul-Amir Abbas "It should be noted here that the accuracy of decision-making depends on two factors: the first is the accurate identification of the various stimuli because the basic diagnostic information is for the purpose of the interaction, and the second factor is the information stored in the memory, which represents the previous experience, the more accurate information and various stored motor programs there is, the more it means that the individual has the opportunity to find the accurate response" (Shaima Ali Khamis and Raed Abdul-Amir Abbas: (2015, pp. 25-5)

#### **4. Conclusions and recommendations**

##### **4-1 Conclusions:**

- 1-Compound exercises ( mental-skill ) had an effect on the development of the ability to convert attention and motor response.
- 2-Compound exercises ( mental-skill ) had an effect on improving the accuracy of stabbing with a simple straight attack
- 3- Compound exercises ( mental-skill ) in this ripple in pregnancy led to this amount of development in the ability to divert attention, motor response, and the accuracy of stabbing with a simple straight attack.

##### **4.2 Recommendations:**

- 1- The use of compound exercises (mental-skill ) that develop the ability to divert attention, motor response, and the accuracy of stabbing with a simple straight attack.
- 2- Conducting similar studies in other skills that were not addressed in the study.
- 3- Conducting similar studies for other age groups and other training methods related to the development of offensive or defensive skills in the game of fencing and knowing the results of these studies.
- 4- Paying attention to conducting tests and measurements periodically

##### **Sources**

- Ibrahim Ahmed Salameh: Research Methods in Physical Education, Dar Al-Ma'arif, Cairo, 1980.
- Najm Obeid Boys: The Effect of Cooperative Learning Strategy Using Educational Aids in the Development of Some Physical and Motor Abilities and Learning the Skills of Crushing Hitting and Volleyball Barrier for Students, Master's Thesis, University of Babylon, Faculty of Physical Education and Sport Sciences, 2017.
- Raysan Khraibet Muhammad: Encyclopedia of Measurements and Tests in Physical Education and Sports , University of Basra, Higher Education Press, 1998 .
- Shaimaa Ali Khamis and Raed Abdul-Amir Abbas: The Psychology of Volleyball, 1st Edition, Najaf, 4D Printing and Design, 2015 .
- Mahdi Fadel Mohsen Youssef: The Effect of Exercises Using (O.K.R.S) and (R.G.L) ON THE DEVELOPMENT OF SOME HARMONIC ABILITIES AND SKILL PERFORMANCE IN FOOTBALL, MASTER'S THESIS, Al-Mustansiriyah University , Faculty of Physical Education and Sport Sciences, 2019 .

- Wajih Mahjoub: Methods and Methods of Scientific Research , 1st Edition, Baghdad, Dar Al-Hekma for Printing and Publishing, 1993.

### **Appendix (1) Compound Exercises**

1- The players stand in the group and the leader holds the colored stick and rotates it and then fixes it, and then the player is asked to perform a straight attack on one of the two colors of the stick, and this is how the players exchange roles

This is the memorandum version of the text:

2. One of the players stands in front of the colored signs painted on the wall. The leader of the group is instructed to one of the colors, and the performer moves to the said color and performs a direct direct attack. Players take turns in turn .

3. The players stand in the shape of a square, each holding a number from 1-4 irregularly, and one of the players stands in the middle. The group leader instructs the attack on one of the numbers, after which the turns change successively as the numbers change.

4- Four black circles are placed on the wall, and the commander holds a laser in his hands, so he directs the laser towards a certain circle. The player changes the weapon and then attacks this circle, after which the players take turns.

5- Four colored circles are placed on the wall, and the commander mentions a certain color for the player leading to perform the direct direct attack according to the desired color, and then the players are exchanged.

6- The players stand holding a certain shape, and the leader asks the performing student to perform a direct straight attack towards the shape (it may be a triangle). The players then switch places so that the performance by the same player is done in another form.

7- The players stand with the four letters in a row, and the performer stands facing the players. The leader mentions a certain letter, and the player performs a straight attack on the said letter. The players with the letters then switch places to be performed again by the same player on another letter.

8- Four black circles are placed on the wall, and the commander holds a laser in his hands. He directs the laser towards a certain circle, and the player attacks this circle. After that, the players take turns.

9- The group leader stands and holds a collar in his hands with three colored balls, and the rest of the players stand facing the hoop. The player performing the attack is asked to change direction on a certain color.

10. Players stand in a row facing the color-changing flashlight. The leader mentions three colors for the performing player to perform a straight attack after the desired color appears. The players then take turns to perform.

11. Players stand holding a certain shape, and the commander asks the performing player to perform a decisive attack towards the shape (it may be a square). The players then switch positions so that the performance by the same player is done in another form.

### **Appendix (2) Training Module Form**

Training Module : First		Mental Skill	Training Objective	
Time: 60 minutes		/ /	History	
Notes		Details		Department
		General preparation exercises for all muscles and joints of the body in order to raise the efficiency of the circulatory and respiratory systems. They perform warm-up exercises among themselves by performing ball manipulations between them		Preparatory Section
Emphasizing the education of all players and the proper explanation of the exercise		An explanation and presentation on how to implement the skill exercises with a model of them presented by the coach or one of the players, and then the coach corrects the mistakes.	45D	Main Section Educational Aspect
			10D	
Emphasizing the players' concentration during the performance of exercises	Duplicates	Workout Code	35D	Practical Aspect
	The largest number	Exercise (1)	7d	
	The largest number	Exercise (2)	7d	
	The largest number	Exercise (3)	7d	
	The largest number	Exercise No. (4)	7d	
	The largest number	Exercise No. (5)	7d	
Emphasizing the return of the tools and means used in the educational unit		Relaxation and soothing exercises to return the body to its normal state	10D	Concluding Section