

INNOVATIVE EXERCISES FOR THE SKILL OF PULLING THE TRIGGER AND ITS EFFECT ON THE FIRING TIME AND THE SPEED OF THE MOTOR RESPONSE WITH THE AIR GUN

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ABSTRACT *The two researchers performed special exercises to pull the trigger to develop the motor response and the throw time, in order to prepare a number of trainees, on scientific bases, to address their weaknesses in order to create qualified champions to participate in the shooting competitions. The aim of the researchers to the numbers of special exercises for the skill of pulling the trigger air rifle for the players team Faculty of Physical Education and Sports Science for Girls and learn about the effect of exercise skillfully pull the trigger on the time of the shooting and the speed of the motor response rifle to the players team Alklah.kma imposed researchers to the presence of statistically significant differences between the pre-test and post differences*

Keywords: Exercise - Trigger pull skill - Throwing time - Response speed

INTRODUCTION:

The shooting sports is one of the individual sports that have privacy in their performance and their training, as performance is achieved in which through the ideal performance are interrelated series of skills (setting firing - mechanical own firing breath - trigger pull) and culminate in these skills the basic objective of a correction accuracy, and is a skill to pull the trigger of the task and basic skills, in particular, and it precedes correction, so the master is the boundary of the result required in the shooting sports in general and air rifle in particular, as it occupies the nervous system leading to the development of sport shooting as they rely on incentives or Almenb Sensory or visual senses are dependent on the stimulation of nerve centers responsible for movement, which allows the nervous system to control and control the stimuli and determine the time required to make a decision. Time plays an important role in the sport of shooting and at every attempt to correct from the moment of lifting the weapon until the completion of the correction. there is a positive correlation between the firing time for all rounds and the speed of the motor response, as it represents an element of success to pull the trigger in a timely manner the fact that any skill requires throwing "stimulate all the senses to receive and impart information to the brain to get a correct response, no reaction seborrheic direction. The attic should be a quick and accurate response is proportional to the time. "So is the importance of search numbers exercises special skill pull the trigger and its impact on the time of the shooting and the speed of the motor response air rifle.

TECHNIQUES PARTICIPANTS

The research community identified the players of the aerial rifle shooting team of the Physical Education and Sports Science Faculty for girls (25). The sample was deliberately selected from the team players. Twenty players were selected and 20-22 years old, ten for the experimental group and those who underwent exercise training by the

researchers, ten for the control group who underwent traditional exercises in the training curriculum.

DESIGN AND PROCEDURES

The researchers prepared 28 different exercises in the skills of pulling the trigger and the speed of response and improving the time of throwing and strengthening the muscles of the palm and fingers were divided into (12) exercise per month and some exercises have been repeated for difficulty and its impact after reviewing the scientific sources and interview with experienced and competent (3) months from 14/1/2018 until 8/4/2018 and the Shooting Hall in the College of Physical Education and Sports Science for Girls.

The two groups were trained during the holidays in the Iraqi Central Shooting Hall. Three training units per week in days Saturday, Monday and Tuesday became the number of units u (12) units and the total number (36) training unit and each unit consists of (6) exercises, a variety of objectives as these exercises are carried out in the three units per week and the time of each exercise (10) seconds and repeat (4) Exercise and rest are twice as long as exercise is applied in the main part of the training unit, which is (60) d. The time it takes for application exercises (15-25) d. The exercises in the first week and the second are the same goals, time, repetition and rest. In the third and fourth week, the same exercise is repeated. However, the duration of each exercise is increased to (12) seconds, with repetition and rest. The principle of training difficulties and training units was used as an increase Each exercise - increasing the time of the training module - gradually complicates the exercise from easy to difficult - the use of creative means to complicate the performance of the exercise) as shown in the annex to the exercise model and the loading mechanism of intensity, size and comfort for the first month [1].

STATISTICAL ANALYSIS

View and analyze the results of tribal and remote testing of the experimental group, as shown in the table (1).

Table (1): shows the computational environment, the standard deviations and the value (t) calculated between the pre and post test of the experimental group in the search variables

Variables	MEASURING UNIT		THE FIRST TEST		THE FIRST TEST	THE LAST TEST	VALUE T*	SIGNIFICANCE
	s	h	s	h				
Time of throwing	20.41	2.359	17.62	1.145	2.79	1.938	4.558	Spiritual
Response speed	0.48	0.151	0.33	0.095	0.15	0.127	3.750	Spiritual

* The value of tables (1.833) was below the level of significance (0.05) and the degree of freedom (9)[2].

Table (1) shows the computation, standard deviations, mean differences, and value (t) calculated between the tribal and remote tests at the time of firing and the motor response speed of the experimental group. The calculated value of t for the tribal and remote tests for the test of the timing of the firing time was (4.558) 0.05) and the degree of freedom (9), which is higher than the table value of (1.833), which indicates a significant difference between

the tests and the benefit of the post-test, and the value of (t) calculated for the tribal and remote tests in the test speed of motor response was (3.750) 0.05) and the degree of freedom (9) which is higher than the gross value Which amounted to (1.833) indicating significant differences between the tribal and remote tests and for the benefit of the post-test View and analyze the results of the tribal and remote tests of the control group, as shown in table(2).

Table (2) shows the computational environment, the standard deviations and the value (t) calculated between the pre and posttest of the control group in the investigated variables.

Variables	MEASURING UNIT		THE FIRST TEST		THE FIRST TEST	THE LAST TEST	VALUE T*	SIGNIFICANCE
	s	h	s	h				
Time of throwing	20.86	1.986	19.24	1.181	1.62	1.457	3.521	Spiritual
Response speed	0.49	0.137	0.39	0.086	0.10	0.113	2.857	Spiritual

The value of tables (1.833) was below the level of significance (0.05) and the degree of freedom (9)[3]. The value of (t) calculated (3.521) in the tribal and remote tests of the control group in the test of the time of throwing under the level of significance (0.05) and score (9), which is higher than the value of the scale of (1.833),

indicating that there were significant differences between statistical tests tribal (2.857) in the motor response speed test below the level of (0.05) and (9), which is higher than the value of (1.833) View and analyze the results of the remote tests of the control and experimental groups, as shown in table (3).

Table (3): shows the computational environment, the standard deviations and the value (t) calculated between the experimental and control groups in the remote tests of the investigated variables.

Variables	TEST		EXACTLY		VALUE T*	SIGNIFICANCE
	s	h	s	h		
Time of throwing	17.62	1.145	19.24	1.181	2.956	Spiritual
Response speed	0.30	0.095	0.39	0.086	2.142	Spiritual

The value of tables (1.734) was below the level of significance (0.05) and the degree of freedom (18)[4]. The value of (T) calculated in the timing of the throwing (2.906) below the level of significance (0.05) and the degree of freedom (18) is higher than the value of the scale (1.734), indicating that there are significant differences in favor of the experimental group. The value of (t) calculated (2.142) in the motor response speed test between the experimental and control groups in the post-test, below the level of significance (0.05) and freedom degree (18), which is higher than the scale value of (21.734), indicating that there are significant differences between the two groups in the post-test and for the experimental group.

DISCUSSION:

Table (1) shows a significant difference between the pre-test and the post-test and the post-test in the test of the throw time. There were also significant differences between the pre-test and the remote and for the benefit of the post-test in the measurement of the time of throwing and the

researchers attribute this development to the effectiveness of the effect of the use of innovative exercises skill pull trigger, Scientific and based on the opinion of experts in the field of sports and specialises in the shooting which led to the emergence of these differences in the moral time of throwing and commitment to the performance of the skill of throwing shorter time than the previous scientific sources indicate that "the time of performance develops during training and is linked to time "The skill of pulling the trigger is the final outcome of the firing process and determines the location of the launch and the numerical value of the target," he said. The results of the motor response speed test indicate a marked improvement in the speed of the motor response. The researchers attribute this to the reflection of the effect of training on special exercises on the development of motor response speed and WajihMahjoub asserts that sensory skill is movement, but decisions about movement are important. D on the reaction, which varies from one skill to another as it develops by training and practice "[6].

Table 2 shows the existence of significant differences in the tests of the tribal and the dimension and for the benefit of remote tests in the test time of throwing and speed of motor response and the two researchers attributed this development to the training and the approach adopted by the trainers, and this is confirmed by the training scientists, "Sports training leads to events changes In the performance and increase the efficiency of the individual to achieve a specific goal "The control group has developed a few percentages compared to the experimental group and the two researchers attributed to their reliance on traditional exercises and repetitions and lead in a typical way that the development of skills depends on the frequency of exercises in a non - And other similar change response trends to stimulate the receptors for the development of performance and then Achievement[7]. "Table (3) shows significant differences in favor of the experimental group in the timing test and the speed of the motor response between the experimental and control groups. It is worth mentioning the effect of training and the development of the experimental and control groups and the appearance of the effectiveness of

The training: A higher development in the control group of the control group, which was limited to the traditional exercises prepared by the trainers, because the exercise was special to pull the trigger and contained exercises to develop the time of throwing "which is associated with the time of restraint and pressure on the trigger as well as "The impact of training on the development of motor response speed is that" motor response time plays an important role

in the performance of sports and skills. The athlete needs sound and scientifically based training to be able to control and control the wise response to suit the time required for performance. " Archery is one of the sports that need to respond quickly to the development of performance, "It is not necessary to interpret the orders of nerve through the central nervous system and that the instruction is performed when it reaches the spinal cord and return to the muscles executed" Exercises to pull the trigger The researchers sought to reduce the length of time to throw through the development of speed of motor response and decision-making time is less than the prolongation of time above the required level of throwing leads to stumbling and slow performance and the emergence of early signs of fatigue on the slopes and confirms (Ibrahim Youssef Mansour) Conductivity of the human nerve is at 12 cm in each part of the millisecond. "Therefore, the time between the firing time and the speed of decision making [5].

RESULTS:

Special exercises for trigger pull have a positive effect on the development of the firing time.

- 1- Exercise is effective in improving the motor response by shortening the time between the stimulant and the response.
- 2- The diversity of exercises prepared using modern methods and tools and tools contributed to the improvement of research variables as shown in table (4) and table (5).

Table (4): shows the stomach exercises

s	Exercise content	Exercise Name	The goal of the exercise
1	Put towards a rubber cord on the index finger and stuck to the second party with the other hand and bend the index finger as if it pulls the trigger	Exercise small rubber ropes	Improve the skill of pulling the trigger
2	It is aimed at pressing the ball on the foam Kabdta ball all fingers and keeping a hand	Exercise balls Medical foam	Strengthen the muscles of the palm and fingers
3	The efforts by clicking on the wall as if they are working Train pressure on the ground (Aelchenao), but the parties to the fingers only after each Ad raises a finger on the wall starting from the pinkie finger and then raise the pinky and ring finger and pinky and ring finger and middle and pinky and ring finger and middle and thumb so that the efforts by pressing wall only index finger	Exercise pressure on the wall	Strengthen the muscles stop in general and strengthen the muscles of the index finger in particular
4	The work aimed at a small slab of artificial mud and the pressure inside the board index finger similar to the movement of the trigger pull movement	Exercise artificial mud	Improve the skill of pulling the trigger
5	Cut a small sponge placed behind the trigger and the efforts to pull the trigger with the false shooting	Exercise machining spongy	Improve the skill of pulling the trigger
6	The same as the previous exercise with the real shooting	The same as the previous exercise	Improve the skill of pulling the trigger
7	Put towards index finger inside the movement Alslaam bend the forefinger as the movement of the trigger pull	Exercise paste Alslaam	Improve the skill of pulling the trigger
8	Put one designed wooden stick on the center of the first phalanx of the index finger and the movement of bending back as in the movement of the trigger pull	Exercise Baloawad Wooden	Improve the skill of pulling the trigger
9	The weapon is placed on a platform and sitting on a chair designed in front of the podium and you pull the trigger and is blindly focused on the sense to pull the trigger only. The shooting is a liar	Exercise sense pressure trigger	Improve the skill of pulling the trigger
10	The same as the previous exercise with the trigger pull in a sequential and continuous without feeling the pressure first and second trigger	Exercise continuous withdrawal	Improve the skill of pulling the trigger
11	Take full efforts put the shooting and are designed to pull the trigger sequentially and continuously without feeling the pressure first and second until the exit Alatlaqh without learning efforts when it was absolutely, as the focus is on the chance and the	Exercise Alatlaqh snap	Improve the skill of pulling the trigger

	ritual and the target and be a real shooting		
12	Put the shooting stand is throwing on the target, which directs the laser horizontal movement and when the movement stops the laser aiming to pay on the target	Laser Exercise	Improve response speed
13	Put the shooting stand trainer asks aimed to focus on the goal, which is a 5 mm Qtaraha point	Exercise by focusing on a specific point	Improve response speed
14	The same as the previous exercise with a piece of spongy behind the trigger and be a liar throwing this exercise	Compound exercise using a certain point and cut spongy	Improve response speed and skill of pulling the trigger
15	Put the shooting stand will be aimed Mthaia and ready to put the shooting and correction is the correction on the target after hearing the sound of the whistle light emanating from the coach	Exercise Balsafrh	Improve the time of the shooting and the speed of the motor response
16	Put the shooting stand is shooting at a target that contains four circles of different colors when you hear instruct the color selected by coach, for example, the color red should be throwing on the color red.	Exercise colored circles	Improve response speed
17	Put the shooting stand is firing on a target multiple colors striped vertically and should be throwing on the color specified by coach	Exercise with a view to colorful vertical	Improve response speed
18	Put the shooting stand is throwing the biggest goal of which is the goal of the gun contains various geometric forms and when you hear the shooting is to instruct the desired shape by coach	Exercise geometric	Improve response speed and time of the shooting
19	Put the shooting stand is firing five rounds during the time of 5 d	Exercise given a time;	Improve the time of the shooting
20	The same as the previous exercise but is throwing through its 4.30 d	The same as the previous exercise	Improve the time of the shooting
21	The same as the previous exercise, but is shooting time of 4 d	The same as the previous exercise	Improve the time of the shooting
22	The same as the previous exercise but a time of 3.30 d	The same as the previous exercise	Improve the time of the shooting
23	Put the shooting stand is the timing of the alarm clock for 25 seconds during which the correction and when exceeding this period must be aimed down arms and primitive new time new uncontroversial	Exercise time alarm clock	Improve the time of the shooting
24	The same as the previous exercise, but is throwing within 20 seconds	The same as the previous exercise	Improve the time of the shooting
25	The same as the previous exercise but are throwing 15	The same as the previous exercise	Improve the time of the shooting
26	Put the shooting stand is shooting at a target containing four colored circles and is aimed at scoring the color specified by the coach with the timing of the alarm for 25 seconds	Compound exercise time colorful circles	Improve response speed and time of the shooting
27	The same as the previous exercise with the timing of the alarm clock for 25 seconds.	The same as the previous exercise	Improve response speed and time of the shooting
28	The same as the previous exercise with the timing of the alarm clock for 25 seconds.	The same as the previous exercise	Improve response speed and time of the shooting

Table (5): a form of training modules for the first month

s	Exercise number	aim	time	Repetition	Comforts	Exercise time		unity	week	month
1	1	Improve the skill of pulling the trigger	10 sec	4	2-1	2.40 sec	15d	1 +	1	1
2	4	Improve the skill of pulling the trigger	10 sec	4	2-1	2.40 Sec				
3	6	Improve response speed	10 sec	4	2-1	2.40 sec				
4	7	Improve response speed	10 sec	4	2-1	2.40 sec				
5	12	Improve the time of the shooting	10 sec	4	2-1	2.40 sec				
6	2	Strengthen the muscles of the palm and fingers	10 sec	4	2-1	2.40 sec				
1	5	Improve the skill of pulling the trigger	10 sec	4	2-1	2.40 sec	15d	4 +	2	
2	8	Improve the time of the shooting and the speed of the motor response	10 sec	4	2-1	2.40 sec				

3	9	Improve response speed	10 sec	4	2-1	2.40 sec						
4	10	Improve response speed	10 sec	4	2-1	2.40 sec						
5	11	Improve the time of the shooting and the speed of the motor response	10 sec	4	2-1	2.40 sec						
6	3	Strengthen the muscles stop in general and the muscles of the index finger and in particular	10 sec	4	2-1	2.40 sec						
1	1	Improve the skill of pulling the trigger	12sec	4	2-1	3d				17d	7 + 8 + 9	3
2	6	Improve response speed	12sec	4	2-1	3d						
3	8	Improve the time of the shooting and the speed of the motor response	12sec	4	2-1	3d						
4	5	Improve the skill of pulling the trigger	12sec	4	2-1	3d						
5	11	Improve the time of the shooting and the speed of the motor response	12sec	4	2-1	3d						
6	2	Strengthen the muscles of the palm and fingers	12sec	4	2-1	3d						
1	4	Improve the skill of pulling the trigger	12sec	4	2-1	3d	17d	10 + 11 + 12	4			
2	7	Improve response speed	12sec	4	2-1	3d						
3	12	Improve the time of the shooting	12sec	4	2-1	3d						
4	9	Improve response speed	12sec	4	2-1	3d						
5	10	Improve response speed	12sec	4	2-1	3d						
6	3	Strengthen the muscles stop in general and the muscles of the index finger and in particular	12sec	4	2-1	3d						

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