



## Performance Training for the Development of the Harmonic Ability and its Impact on the Rapid Force and the Achievement of (50) Meters of Breast for Junior

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### Abstract

In the introduction and importance of the research, the importance of the muscular ability to harmonize the formation and formulation of specific physical characteristics of many games with motor performance, including swimming, which need to link the strength and speed together to the muscles working in the performance, and the importance of research in the use of training exercises to perform muscle training Harmonic characteristic of the speed of the muscles of the arms and legs to promote the players, which in turn is working on the development of the completion of (50) meters breast. The problem of research is that many players are characterized by good physical and physical ability, but cannot perform any movements that require a certain amount of coherence and compatibility at the same time, the chest swell is far from the normal movements performed by the player in his public life, as well as it needs to High level of motor timing and muscle compatibility, which is the blows of the legs and the blows of the arms and the process of linking them to the breathing process, which are not familiar to the swimmer, especially in the younger ages of them. The aim of the study is to prepare a performance training to develop the musculoskeletal capacity of the two legs and arms of the young swimmers. 2 - Identify the effect of special exercises in the development of the rapid strength of the muscles of the legs and arms and the completion of the 50-meter breaststroke ages (11-13) years. The research hypothesis is that there are statistically significant differences in the effect of adaptive ability exercises in the results of the pretests on the dimension in the development of the rapid strength of the muscles of the legs and arms and the completion of (50) m. The researchers identified the research society and its sample with the specialized school for boys (11-13 years old) and officially registered in the Central Swimming Federation who continue in training and competition in the sports season (2017-2018) of (8) swimmers. Their number (4) players. Four of them were excluded due to repeated absence, thus representing 50% of the research community. The special exercises were carried out within the training curriculum for the sample which lasted eight weeks and three days a week for 24 training units. The researchers found several conclusions that the special compatibility ability exercises led to the development of muscular strength of the arms and legs in the junior swimming pool. Special compatibility resulted in the development of muscular capacity for both arms and legs, which had a good effect in the development of the digital achievement of (50) meters in the sample junior swim.

**Keywords:** *Performance training, harmonic ability and rapid force.*

### Introduction

The achievement is a variable that drives the swimmer to use many muscle groups of his body may be lost some of the momentum and movement required in the proper performance, which is why focus on the training of muscle groups involved in the proper performance aimed at raising the level of achievement by reducing time as possible. Muscle strength is an important component of physical fitness that involves the formation and formulation of specific physical characteristics of many motor-related games, including swimming.

Power requirements (which include power and speed) vary according to activity, strength and speed, and the level of muscular strength. In the sense that the ability of the player to acquire acceleration is linked to the development of muscle strength and that the total exercises performed to increase muscle capacity leads to the development of the work of the nervous and muscular systems, which positively affect the performance of muscle contractions appropriate and to improve the compatibility between working muscles and

interview, leading to economy in time and effort. Therefore, it is necessary for the trainers and players to be interested in the ability to develop their physical level, and that the possession of the players for the strength and speed leads to the development of explosive power and rapid force (speed), if the best player to exploit it as a very important in the sport of swimming, which is characterized by the performance of the movement of motor drag and push the arms and legs and compatibility between them and movement of the head and breathing [1].

Which require the strength and speed of the muscles involved in the performance of the performance, the dynamic performance of the process of pushing back needs to be explosive and distinctive speed of the muscles of the two legs and arms movement requires great strength and speed in the trunk and arms as well as the compatibility of movement of the head in breathing and driving movement, and the performance of movements quickly and without significant stops will contribute to the integration of movement between the joints of the body and the loss of speed of performance between them, and this means to take advantage of the momentum achieved in each part and moving through the joints within the motor track to achieve the mechanical goal is recorded fastest time.

Here came the importance of research in the use Performance exercises for the training and development of muscle fitness characteristic of the speed of the muscles of the arms and legs in order to upgrade the players to a sophisticated level of training, which in turn is working on the development of (50) meters breast in the sample research [2].

### Research Aims

The current research aims to:

- Preparation of special exercises for the development of the musculoskeletal capacity of the two legs and arms of the young swimmers.

- Recognition of the effect of special exercises in the development of the rapid strength of the muscles of the legs and arms and the completion of the 50-meter breaststroke Ages (11-13) years

### Hypothesis

- There are statistically significant differences in the effect of the harmonic ability exercises in the results of the pretests on the dimension in the development of the rapid strength of the muscles of the legs and arms and the completion of (50).

### Research Methodology

The research problem is of an experimental nature, so the researchers used the experimental method of designing the experimental group. The experimental variable will be introduced and then measured after the comparison of the criteria of the pre and Post measurements to test the difference.

### Search Community and Design

The researchers identified the research society and its sample in the special school for boys (11-13 years) and registered officially in the Central Swimming Federation who continue in the training and competition in the sports season (2017-2018) of (8) swimmers. Their number (4) players. Four of them were excluded due to repeated absence, thus representing 50% of the research community.

And to avoid the factors that affect the results of the experiment using the homogeneity of the sample, as shown in Table (1). The results showed the homogeneity of the sample by decreasing the value of the torsion coefficient (+ 1, - 1), which indicates their distribution moderately by proximity to normal distribution (7: 35). Based on this, the sample is homogeneous. As shown in Table (1).

**Table 1: The homogeneity of the sample is shown in length, age, and training age**

Variables	Mean	Median	SD	Skewness	Distribution
Mass / kg	43.25	43	5.315	0.141	Equinoctial
Length / cm	152.5	152	2.081	0.720	Equinoctial
Age / year	11.15	11	0.957	0.470	Equinoctial
Training month by month	46.5	48	7.187	-0.626	Equinoctial

### Means, Equipment and Tools used in the Research

Arab and foreign sources and references.

- International Internet
- Individual interviews.
- Observation and experimentation.
- The test form for the research and the completion test (50) m.
- Data registration form.
- Assistant staff.
- Portable (Laptop) type (Dell).
- Japanese Medical Balance Origin.
- Metric tape length (100).
- Various training models. Special jump obstacles (10) with height (50) with terraces

jumping (4) height (30 cm). Rubber ropes, rafts.

## Field Research Procedures

### Choose the Tests used in the Search

The researchers used scientific sources and previous studies to determine the necessary tests to measure some of the abilities related to the phenomenon to be measured. Accordingly, the researchers chose a set of physical tests and completion tests to be an indicator of the development of the experimental method. The researchers based their tests on their experiences and the opinions of some experts. In the field of testing, measurement, sports training and swimming, as shown in Table (2).

**Table 2: It shows the selected tests, their purpose, the proportion of the experts' agreement and the sources in which they are located**

S	Test name	Units	Its purpose is measurement	Expert Agreement	References tests
1	Test the bending and extension of the arms from the position of suspension (10) Sec.	Number	Measurement of the force characteristic of the speed of the arms of the arms	98%	Mohamed Sobhy Hassanein[3]
2	Test the flexion and extension of the knees (DBA) for as many as possible during (20) Sec.	Number	Measure the speed of the two legs	95%	Ayman Hussein Ali[4]
3	Completion (50 Meter) Chest	Sec.	Measure the completion of 50 meters chest swimming	100%	Ali Salloum Jawad Al Hakim[5]

### Pretests:

The researchers conducted the pretests on the new research sample of (4) players on Sunday, 27/5/2018 and at 10 am on the Olympic swimming pool has recorded measurements of the mass and length of the body and parts, and after giving a brief explanation of how the tests performed and sequence was conducted Strength tests of speed for two legs and the strength of the speed of the arms and completion test 50 meters chest. The sample was given a suitable rest interval between test and another for 15 minutes. All trials were recorded for analysis and statistics.

### Exercises used in Research

The researchers prepared and organized training exercises for the compatibility ability of the performance, which was applied within the training curriculum of the sample to develop the muscular strength characteristic of the speed of the muscles of the legs and arms using some training tools to assist in the training of different training models. Special jump jumps (30 and 50 cm)

with rubber ropes and building rafts On the experience of the researchers and based on the competent sources has been presented to a number of experts (\*) to increase the scientific resumes, and the researchers took into account the gradient in the intensity of pregnancy and the number of exercises and repetitions and elevations according to the ability of players. The training curriculum was implemented in (8) weeks at a rate of (3) units per week (Sunday - Tuesday - Thursday) and for (24) training units from 3/6/2018 until 26/7/2018 and at a time of 20-25 minutes. Workouts in the main section of your preparation period. This is consistent with what Klinzing [6].Of the number of training units in the week between (2-3) and the number of weeks not less than (6) weeks until the emergence of evolution.

The researcher pointed out that the characteristics of this training is that the intensity of the pregnancy is 75% 95% of the maximum limit of the player and that the size of the load decreases as a result of increased intensity and not to exceed the frequency of (812) times, And rest periods

between groups between 90 and 180 w, and pregnancy was graduated [7]. As this pregnancy forces the muscles to work at maximum intensity and the right overload and bends control of the heights to which the player proves and above which descends to the ground as well as the horizontal distances, which passes by land or in water [8].

**Posttests**

After the expiration of the duration of the exercises, the tests were carried out after the tests are the strength of speed characteristic of the two legs and the strength of the speed of the arms and test completion 50 meters breast and the sample of the national team

players for swimming Junior (4) players on Sunday, 2018. The researchers were keen to create the same conditions as possible in the pretests.

**View, Analyze, and Discuss Results**

**View and Analyze the Results of Rapid Power Variables and Discuss Them**

In order to identify the improvements in the muscular abilities of both legs and arms after the application of training exercises in the vocabulary of the training curriculum of the sample, and then display the results of pre and Posttests in the form of tables as a demonstration tool, in Table (3) and (4) below.

**Table 3: It shows the values of arithmetic circles and their deviations for pre and Post search variables**

Tests	Units	Pretests		Posttest	
		Mean	SD	Mean	SD
Test the bending and extension of the arms from the position of suspension (10) Sec.	Number	14.25	0.957	19.5	1.290
Test the flexion and extension of the knees (DBA) for as many as possible during (20) Sec.	Number	11	2.708	18	0.865
Completion (50 Meter) Chest	Second	49.84	5.508	42.26	2.725

**Table 4: Demonstrate the statistical processes of the t-law of the corresponding samples and their differences between the results of the pre-and post-test tests in the rapid force tests and the completion test**

Tests	Units	Mean Diff.	SD Diff.	(t)value		Significance of differences
				Calculated	Tabulated	
Test the bending and extension of the arms from the position of suspension (10) Sec.	Number	3.75	1.142	6.567	2.353	Sig.
Test the flexion and extension of the knees (DBA) for as many as possible during (20) Sec.	Number	8.50	1.914	8.881		Sig.
Completion (50 Meter) Chest	Second	7.58	2,798	5.418		Sig.

The scale is below the significance level (0.05) degree of freedom (3)

The results shown in tables (4) show that there are significant differences between the results of the pre and Post tests and for the tests of the dimension of the selected quick power variables .The evolution of the speed variable of the arms, which is the test of flexing and extending the arms from the position of slack (10) In the field, the researchers attributed the effectiveness of

the various exercises, which were designed to train the compatibility ability of the effectiveness of the various exercises, which was designed to train the compatibility ability by increasing the bond between the movements of the arms and legs together, [9]The training course in which the members of the sample used various exercises outside the water and inside the water from the

strength training characteristic of the speed of the muscles of the arms using the body weight as a resistance outside the water to strengthen the movement of the arms and the use of tools and buoyancy and the wall to push in the process of bending and extending the arms and on the ground and a similar pathway to perform performance by gradation of stability and movement and linking more than one movement in the performance of series and different hardness and repetitions throughout the period of application of training within the training curriculum for the sample, and this is consistent with what (Osama Riyad) that training exercises similar to the performance movements Iss to develop the skill of muscle strength and nerve exercises, including the use of muscle aggregates itself and in the same general direction of the performance of the game itself so as to reach a high level [10]. Which has had an effective effect in increasing the interdependence between the work of the nervous and muscular systems gained by the process of compatibility and harmony between the work of the muscles of the upper and lower body, which was reflected positively in the development of the post-test.

Table (4) shows that there is an evolution in the strength variable characteristic of the speed of the muscles of the two legs, which is the test of flexing and extending the knees (Squat) for as many as possible during (20) Sec., where the significance of the differences between the pre and Post measurements and for the benefit of telemetry through the calculated value (t), [11] which was higher than the value of the table, indicating the development of the sample of the result of repetitions characterized by rapid muscle contractions and strong and increased tensile, which gave the training effect of this capacity by increasing the rubber muscles to get the greatest possible power by strong and rapid payment against Gravity forces, preferred.

This is explained by the law of power (speed  $\times$  speed) as well as the exercises integrated to perform the type of swimming in water and for different distances and characterized by rapid nature and high motor performance. The strength of speed is associated with skill performance. The higher the degree of skill performance, the higher the level of compatibility between the movements of the

participating parts and the fibers and muscles and the improved dynamic distribution of motor function [12]. Table (4) also shows that there are significant differences between the results of the tribes and Post tests and for the tests of the dimension of the completion of the (50 m) breast. The development of the researchers attributed to the effectiveness of the various exercises, which was designed to train the compatibility ability and increase the correlation between movements of arms and legs together Through the members of the sample used various exercises outside the water and in the water body weight and using tools to strengthen the basic muscles so seek swimming exercises to reduce the proportion of energy to implement swimming movements, and increase the amount of energy by strengthening muscles on the basis of Scientific and repetitive stresses and different with regard to diversity in the forms of drills without and without, have contributed to increase the ability of muscles participating in the performance of the motor faster rate when performing successive movements in which the minimum motor errors. This is consistent with what Abdul Aziz Al-Nemer and Tirman Al-Khatib, [13] reported from Owen that continuous repetition and repetition exercises are very different and intensive exercises help to improve the compatibility between the movement of arms and legs with trunk movement and helps to improve the correlation between strength and speed in the muscle

## Conclusions

- That the exercises of special compatibility ability led to the development of muscular capacity of the arms and legs in the sample Junior swim.
- High-intensity infant training, using vertical and back-jumping exercises outside and inside the water, increases the ability of muscles to accomplish a job in less time.
- that the development of muscular capacity of the arms and legs in the sample reflected positively on the development of the ability of the sample to control the type of angles required and the full range of joints working in performance.
- The special compatibility power training led to the developlegst of muscular capacity of the arms and legs, which had a good

effect in the development of digital achievement in the sample junior swim.

Groups working to serve the consistency of the performance of skill and sound.

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