

The effect of forms of training loads of different intensity in the training unit in developing special endurance capabilities and achieving 50-meter freestyle swimming for juniors

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## **The effect of forms of training loads of different intensity in the training unit in developing special endurance capabilities and achieving 50-meter freestyle swimming for juniors**

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### **Abstract:**

The purpose of this paper is to Preparing forms of training loads of different intensity in the training unit in developing special endurance capabilities and achieving 50-meter freestyle swimming for juniors,the researcher used the experimental method with the pre-and post-test for the experimental and control groups, and the research community was determined for the swimmers of the (Al-Hashd ash-Sha bi) Sports Club for juniors for the event of 50 meters free swimming for the 2021 season, numbering (12) swimmers. (8) A swimmer for each group. A regulated training program with forms of training loads of different intensity was applied in the training unit to the experimental group for a period of eight weeks, with three training units per week. The SPSS statistical package was used to process the data and obtain the results, from which the researcher reached the most important conclusions that the forms of loads Training of different intensity in the training unit had a positive effect on developing special endurance capabilities and achieving 50-meter freestyle swimming for juniors.

**Keywords:** Forms of training loads, special endurance abilities, and achievement of the 50-meter freestyle swim.

### **Introduction**

The interest of developed countries in the sports field to find the best ways to develop sports achievement and integrate the training program that leads to raising the level of the swimmer in terms of physical and technical aspects,Swimming is one of the public games practised by people of different genders, males and females, and of different ages (young, Youth, old). As swimming pools are found in all places and people frequent them frequently because they spread the spirit of competition and recreation. The special endurance of swimmers is important in physical adaptation, as this activity requires physical effort and high efficiency without fatigue. And the programmed planning for it according to correct scientific bases on the type of relationship between the components of pregnancy and the specificity of the type of effectiveness The practice is the important aspect in the training process and the adoption of different training methods on the basis of physical adaptation, which leads to significant development in the special endurance variables that work to develop physical work and delay the appearance of fatigue And keep pace with the scientific progress witnessed by the current era.

### **Research problem:**

Sports training is one of the most difficult tasks entrusted to coaches in all fields of sports training, and swimming effectiveness is one of the most difficult of these activities to implement training programs because of the physical requirements of its practitioners on the

one hand and the difficulty of the water medium in which they are practised on the other hand. From here, swimming activity needs swimmers It is of high physical sufficiency and has special specifications for it, that is why the researcher specialized in the field of effectiveness and its presence in the tournaments held by the Central Federation of the game noticed that there is a weakness and decrease in the physical performance related to the special endurance abilities of the swimmers. Training, which contributes to raising their physical capabilities and physical adaptation, which leads to reducing fatigue for a long period without a drop in the level of sports activity.

**Research objective:**

- Preparing forms of training loads of different intensity in the training unit in developing special endurance capabilities and achieving 50-meter freestyle swimming for juniors
- Recognizing the forms of training loads of different intensity in the training unit in developing special endurance capabilities and achieving 50-meter freestyle swimming for juniors.

**Research hypotheses:**

The forms of training loads of different intensity in the training unit had a positive effect on developing special endurance capabilities and achieving 50-meter freestyle swimming for juniors.

**Research fields:**

- Human field: Swimmers of (Al-Hashd ash-Sha bi) Sports Club for Juniors (50m) freestyle event for the 2021 season
- Time field: (5/6/2021) to (11/8/2021)
- Spatial field: Al Shaab close Swimming Pool / Baghdad Governorate

**Research methodology and field procedures:**

**Research Methodology:**

The researcher used the experimental method with the pre and post-test of the experimental group and the control group to suit the nature of the research.

**Community and sample research:**

The research community was determined, swimmers of the (Al-Hashd ash-Sha bi) Club for juniors, for the event of (50 meters) freestyle swimming for the 2021 season, which numbered (12) swimmers, and the sample was divided into two groups, the experimental group and the control group, with (6) swimmers for each group. Homogeneity and equivalence procedures were carried out for the sample, and the results were:

Table (1) shows the homogeneity of the sample

Variables	Measuring unit	Mean	Median	Std. Deviations	Skew ness
Length	Cm	166.12	164	4.321	0.651
Mass	Kg	62.23	62	6.487	0.842
Age	Year	17.76	17	7.531	0.841

Table (2) the equivalence of the tests shows the special endurance and the achievement of the 50-meter freestyle swimming under investigation for the control and experimental groups

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Variables	Control group		Experimental group		T calculated	Level sig	Sig type
	Mean	standard deviation	Mean	standard deviation			
Endurance speed test swim 75 meters	51.541	0.231	53.121	0.830	1.759	0.432	Non sig
Endurance power 10 hurdles jump test 80 cm high	11.321	0.674	13.452	0.983	1.562	0.821	Non sig
Endurance muscular performance test 125m tourism	75.927	0.531	77.873	0.437	1.612	0.651	Non sig
Achievement 50m freestyle swim	33.651	0.894	34.111	0.568	0.851	0.893	Non sig

Significant when the significance value  $\leq 0.05$  under degree of freedom of 10

#### Methods and tools were used in the research:

Observation, tests and measurements, Arab and foreign sources, a device for measuring height and weight - the indoor swimming pool, (4) manual stopwatches, (4) a whistle, a manual electronic calculator (1), (8) flags. Sony video camera, two (2) computers, one (1) computer.

#### Tests used:

- Endurance speed test swim 75 meters <sup>(1)</sup>
- Endurance power 10 hurdles jump test 80 cm high <sup>(2)</sup>.
- Endurance muscular performance test 125m tourism <sup>(3)</sup>.
- Achievement 50m freestyle swim <sup>(4)</sup>.

**Pre-tests:** The researcher conducted the pre-tests in Al Shaab close swimming pool / Baghdad governorate on Saturday 5/6/2021.

#### Exercises used in the research:

The implementation of the training program started on 8/6/2021 until 9/8/2021.

- The duration of the exercises set in weeks: (8) weeks.
- Total number of training units: (24) training units.
- Number of weekly training units: (3) units.
- Weekly training days: (Saturday - Monday - Wednesday).
- The training method used: the high intensity interval training method, the repetitive training method.

#### Appendix (1)

##### Exercises used in the researcher

First week	Exercise	intensity	Rest between repetitions	Rest between groups

Saturday	50meters x 5 x 3 Jumping drills on hurdles with a height of (80 cm) 5 x 10 x 4	% 80	120 pulse/ min	150 pulse/ min
Monday	100meters x 5 x 3 Jumping drills on hurdles with a height of (80 cm) 5 x 10 x 4	% 80	120 pulse/ min	150 pulse/ min
Wednesday	125meters x 3 x 2 Jumping drills on hurdles with a height of (80 cm) 5 x 10 x 4	% 85	120 pulse/ min	150 pulse/ min

**Post-tests:** After completing the training program, the research tests were conducted on Thursday 11/8/2021. The researcher took into account the provision of conditions similar to the tribal tests in terms of (The time, place, tools used, and the method of conducting the tests). On the close Olympic Shaab swimming pool / Baghdad governorate.

**Statistical methods:** The search data was processed through the Statistical Package for the Social Sciences (SPSS).

**Presentation, analysis and discussion of the results:**

**Presentation and analysis of the results of the pre and post-tests in the special endurance abilities and the achievement of the 50-meter freestyle swimming for the experimental group and discussed.**

Table (3) shows the arithmetic means, standard deviations, mean differences, deviations of differences and the (t) value calculated between the pre and post-tests of the experimental group in the special endurance abilities and the achievement of the 50-meter freestyle swimming under study.

Variables	Pre-test		Post-test		deviations of differences	T calculate d	Leve l sig	Sig typ e
	Mean	standard deviatio n	Mean	standard deviatio n				
Endurance speed test swim 75 meters	51.54 1	0.765	50.99 1	0.864	0.664	4.841	0.00 2	Sig
Endurance power 10 hurdles jump test 80 cm high	11.32 1	0.432	10.65 5	0.321	0.879	7.553	0.00 3	Sig
Endurance muscular performance test 125m tourism	75.92 7	0.941	75.11 1	0.895	0.947	5.443	0.00 7	Sig

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Achievement 50m freestyle swim	33.651	0.741	32.431	0.742	0.665	4.877	0.001	Sig
Significant when the significance value $\leq 0.05$ under degree of freedom of 5								

**Presentation and analysis of the results of the pre and post-tests, the special endurance abilities and the achievement of the 50-meter freestyle swimming in the control group, and their discussion**

Table (4) shows the arithmetic means, standard deviations, mean differences, deviations of differences and the (t) value calculated between the pre and post-tests of the control group in the special endurance abilities and the achievement of the 50-meter freestyle swimming under discussion.

Variables	Pre-test		Post-test		deviations of differences	T calculated	Level sig	Sig type
	Mean	standard deviation	Mean	standard deviation				
Endurance speed test swim 75 meters	53,121	0.654	52.431	0.763	0.763	4.783	0.004	Sig
Endurance power 10 hurdles jump test 80 cm high	13.452	0.692	12.231	0.644	0.673	5.983	0.002	Sig
Endurance muscular performance test 125m tourism	77.873	0.978	76.543	0.448	0.822	6.665	0.007	Sig
Achievement 50m freestyle swim	34.111	0.872	33.654	0.598	0.433	3.992	0.008	Sig
Significant when the significance value $\leq 0.05$ under degree of freedom of 5								

**Presentation, analysis and discussion of the results of the post-tests in the special endurance abilities and the achievement of the 50-meter freestyle swimming under study for the control and experimental groups.**

Table (5) shows the arithmetic means, standard deviations, and the (t) value calculated between the post-tests in the special endurance abilities and the achievement of the 50-meter freestyle swimming under study for the control and experimental groups.

Variables	Experimental	Control	T	Sig
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	Mean	standard deviation	Mean	standard deviation	calculated	Level sig	type
Endurance speed test swim 75 meters	49.761	0.331	51.431	0.894	7.967	0.000	Sig
Endurance power 10 hurdles jump test 80 cm high	9.863	0.873	11.763	0.652	5.663	0.001	Sig
Endurance muscular performance test 125m tourism	74.361	0.983	75.761	0.552	6.841	0.002	Sig
Achievement 50m freestyle swim	31.011	0.776	32.021	0.443	8.456	0.001	Sig
Significant when the significance value $\leq 0.05$ under degree of freedom of 10							

### Discuss the results:

The results of Tables (4, 5) show that there are significant differences for the research variables between the pre and post-tests for the two research groups and in favor of the post-test. The researcher attributes that training forms of training loads of different intensity in the training unit in developing the capabilities and achievement of the 50-meter freestyle swim, the results were significant, and the main objective of each training process is to develop the level of swimmers in their endurance capabilities, which is reflected on their physical capabilities and then achieve achievement. Therefore, the preparation of the training program according to the correct scientific foundations will lead to achieving the desired goals of training, and that the program will inevitably lead to the development of achievement if it is built on a scientific basis in organizing the training process and programming it, using the appropriate intensity and noticing individual differences as an indication of the severity of the load required to be provided by the swimmer by determining his percentage from his maximum pulse rate (Muhannad Hussein Al-Bishtawi and Ahmed Ibrahim Al-Khawaja: 2005) <sup>(5)</sup>. In addition, the legalization of forms of training loads of different intensity gave the researcher sufficient clarity in determining the optimal pulse rates during rest periods between repetitions based on the return of the pulse rate in the range of (120-150) pulse /min. As for the rest periods between training groups for special endurance training, and accordingly, the intensity of the load and the rest period between repetitions were legalized by adopting the pulse rate after effort in the research sample, and according to the abilities of each swimmer, in order to ensure that the regular exchange between rest periods and the load on the swimmer's body in all the training units for the application of the training program. The pulse rate gives us an indication of the condition of the swimmer in terms of the effort exerted during the training units, and then the possibility of rationing and distributing the training load on scientific grounds between intensity, size and comfort (Mohammed Hassan Allawi and Abu Al-Ela Ahmed Abdel-Fattah: 1997)<sup>(6)</sup>. As well as to the commitment shown by the sample to the training units implemented

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by the trainer, as well as the increase in the trainer's interest and focus during their training units on developing special endurance abilities, which generated a development that was reflected in the level of achievement (Qasim Hassan Hussein: 1998)<sup>(7)</sup> that diversity in exercise renews activity, play and motivation For the continuity of performance and also gives him opportunities to face the changing playing situations that occur in the competition (Basil Abdul-Mahdi: 2006)<sup>(8)</sup> the coaches must take the following criteria into consideration the number of exercises used in training, age, level of achievement, and the need for games and sports activities for strength and the period or training stage (Mohammed Reda Ibrahim , 2009)<sup>(9)</sup>, and the researcher attributes these results to the fact that the special physical exercises were similar to the special skill of swimming 50 meters freestyle.

### **Conclusions:**

- The training achieved forms of training loads of different intensity in the training unit in developing the special endurance capabilities of the experimental group and in favor of the dimensional measurement.
- The training achieved forms of training loads of different intensity in the training unit in developing achievement for the effectiveness of 50 meters swimming for the experimental group and in favor of the dimensional measurement

### **Recommendations:**

- Paying attention to training forms of training loads of different intensity in the training unit in codifying the training loads for swimmers.
- Conducting similar studies on other swimming activities and methods.
- Conducting similar studies on other age groups in swimming.

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