



**Battle Rope Exercises And Their Impact On The Development Of Certain Physical, Motor And Skill Requirements On The ring device**

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**Abstract**

**Objectives.** The aim of the research was to identify the effect of Battle Rope exercises on developing some physical and motor abilities and technical performance on the ring device in artistic gymnastics.

The researcher believes that the poor level of performance is due to poor physical and skill preparation on the ring device , as gymnastics skills training relies on experience and self-assessment, as well as the limited use of auxiliary training devices and tools due to the unavailability of most of them. This prompted the researcher to use Battle Rope exercises in the training process, which work to develop physical and motor abilities and raise the level of technical performance on the device ring

**Materials and Methods.** The researcher used the experimental method with a single-group design for pre- and post-tests.

The research community was represented by gymnastics players from Thi Qar Club who train at the specialized training center in Nasiriyah, numbering (5) players. The sample was deliberately selected, representing a percentage of (100%). In order to achieve homogeneity among the sample members,

The first training unit was conducted on 1/13/2025, approved on Monday after the pre-tests. The group used the same curriculum trained for the preparatory and final sections, but the researcher introduced Battle Rope exercises in the main section of the group. Through the use of Battle Rope exercises, the researcher aims to develop some physical and motor abilities and technical performance of the kinetic chain on the horizontal bar. The application of Battle Rope exercises took (8) weeks at a rate of (3) training units per week, which are (Monday, Wednesday, Friday). The number of training units is (24) units, and the exercise time ranges from (20-35 minutes). The exercises were applied during the special preparation period, and the goal to be achieved through each training unit was determined. The researcher used the interval training method. The researcher supervised the experiment, and it was implemented for the group by the trainer.

**Results.** Battle Rope exercises improve skill performance on the ring device in men's artistic gymnastics.

**Conclusions.** Use Battle Rope exercises when developing training programs in general for all apparatuses, due to their positive effects on physical requirements and skill performance

**Keywords:** Battle Rope Training, Physical Fitness, Motor Skills Development Gymnastics Performance

## Introduction

The tremendous development in gymnastics and what we have witnessed in players reaching a high level of performance did not come about by chance. Rather, it is the result of the role of sports training in applying its principles, rules, and scientific foundations in developing the necessary training curricula for gymnastics, which has its own unique physical requirements and high-level technical performance. Furthermore, gymnastics practitioners are of a different age group compared to other sports. Auxiliary training methods are one of the most important factors in achieving this in gymnastics, as they accelerate the learning and training process when used properly. Furthermore, they simplify the learning and training process and facilitate the performance of movements. Furthermore, they play an important and fundamental role in the learning and training process for the purpose of improving physical, motor, and skill aspects. Approaching the optimal form and method of performance is a fundamental requirement of the learning and training process.

A player's attainment of the best athletic level depends on many aspects of preparation, whether physical, skillful, tactical, or psychological. These factors, combined with the coach's experience, contribute to the player's attainment of the best performance levels. Battle Rope exercises are a modern training method that has recently gained popularity as a means used by a wide range of players to develop physical and motor abilities and physiological variables. These abilities are the basic pillar upon which the player relies to reach the highest levels and a solid foundation for mastering skills of varying difficulty on the six gymnastic devices, including the rings, one of the most wonderful gymnastic devices and beloved by many due to its attractiveness, excitement, and the wide range of innovation in the skills used. The skills of the rings are the most influential on viewers, and one of its most important characteristics is that all movements are performed on it with pure weight until the body reaches its highest final position in each movement. In addition to the dynamism of the exercises performed on the rings, the height of the device results in the possibility of executing movements with a wide range. The rings is also one of the gymnastic devices that require special skill and precision in performance. Because of the continuity of movements performed on this device, the nature of movements on the rings device is characterized by continuity, diversity of movements and their interconnectedness in a form that combines swings, major rotations, pronation movements, strength movements and stability to perform a kinetic chain that concludes with landing. The rapid and significant development in gymnastic skills has led to the development of auxiliary training methods, as these training methods play an important and prominent role in the sport of gymnastics, whether in terms of physical or skill preparation, in addition to saving time and effort for both the coach and the player. The importance of using Battle Rope exercises in the training process has an important role and helps develop physical and motor abilities and skill performance on the rings device.

## Materials and Methods

### Study Participants.

By observing the Iraqi Gymnastics Clubs Championships held nationwide, as well as their training sessions through watching video clips and attending, the researcher observed a problem in the players' poor performance of skills specific to the ring device . This was manifested by numerous deductions, including some players falling from the apparatus and others being unable to perform highly challenging motor skills. This resulted in a reduction in the player's final score by deducting 1 point from their score for each fall, in addition to a 0.50 deduction for each specific requirement for the apparatus. This was also due to the player's participation on all apparatuses during the morning session, which led to a decline in the players' physical and motor performance. The researcher believes that the poor

performance level is due to poor physical and skill preparation on the ring device , given that gymnastics skills training relies on experience and self-assessment, as well as the limited use of auxiliary training devices and tools due to the unavailability of most of them. This prompted the researcher to use Battle Rope exercises in the training process, which work to develop physical and motor abilities and raise the level of technical performance on the ring device .

**Research Population:** The research population consisted of (5) gymnastics players from the Thi Qar Club who train at the specialized training center in Nasiriyah. The sample, which was deliberately selected, represented a percentage of (100%). In order to achieve homogeneity among the research sample members and to avoid the influence of factors that might affect the results of the experiment in terms of individual differences within the sample, the researcher conducted a sample homogeneity process for some sample specifications that might have an impact on the experimental variable (height, mass, age, training age) using the skewness coefficient law as shown in Table (1). The skewness coefficient value for all research variables was less than  $\pm 3$ , meaning that the sample was normally distributed.

(Table1)

It shows the homogeneity of the research sample individuals in the sample specifications.

Coefficient of skewness	standard deviation	The middle Arithmetic	lonliness Measurement	Variables	T
0.00	3.53	162.00	poison	height	1
0.28	6.22	57,400	kg	mass	2
0.59	1.92	20.20	year	the age	3
0.19	3.39	12	year	age Training	4

**Study organization.** The researcher used the experimental method with a single-group design for the pre- and post-tests.

**Statistical analysis.** Statistical methods: The researcher used the SPSS statistical package, version 2023, and the data were processed using the t-test for independent samples, the arithmetic mean, the standard deviation, and the skewness coefficient.

**Results- Pre-Test:**

The researcher conducted pre-tests of physical and motor abilities and technical performance of the kinetic chain on the ring device on Saturday, January 11, 2025. The researcher also established the conditions related to the tests, such as location, time, and method of implementation, with the aim of achieving the same conditions or as close to them as possible for the post-tests. (Khargan, 2020)

The first training unit was conducted on January 13, 2025, corresponding to Monday, after the preliminary tests. The group used the same curriculum as the preparatory and final sections, but the researcher incorporated Battle Rope exercises into the group's main section. Through the use of Battle Rope exercises, the researcher aimed to develop some of the physical and motor abilities and technical performance of the kinetic chain on the horizontal bar. The Battle Rope exercises took (8) weeks, at a rate of (3) training units per week (Monday, Wednesday, Friday). The number of training units was (24), and the exercise duration ranged from (20-35 minutes). The exercises were implemented during a special preparation period, and the goal to be achieved through each training unit was determined.

The researcher used the interval training method. The researcher supervised the experiment, and the trainer implemented it for the group. • **Battle Rope:** A training tool used to improve physical fitness. Typically, a rope ranges from 26 to 50 feet in length and is 1 to 2 inches thick. The strength varies depending on its length and thickness. The rope is secured around a point, and the athlete holds both ends of the rope, which are usually wrapped with a thick ribbon. Three common movements are used: undulating, whipping, and slamming. The researcher used a 5 cm diameter, 15 m long, and 24 kg synthetic fiber battle rope.

- **Post-Tests:**The researcher conducted the post-tests for the technical performance of the kinetic chain on the ring device under the same conditions as the pre-tests for the research sample, on Sunday, March 9, 2025, in the hall of the Nasiriyah Training Center at (5) pm.

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

**Presentation and Analysis of the Results of the Pre- and Post-tests for Technical Performance and Variables:**

Table (2)

shows the arithmetic mean, standard deviation, calculated t-value, and statistical significance in the pre- and post-tests for physical and motor abilities and technical performance.

level	Sig	T	test-Post		test-Pre		To lonliness measure	Variables	T
			± A	S	± A	S			
moral	0.03	2.58	2.82	24	2.00	20	number	Muscle endurance	1
moral	0.00	4.23	2.77	39.80	5.22	28.60	poison	shoulder flexibility	2
moral	0.00	3.42	0.73	8.20	1.15	6.10	degree	agility	3
moral	0.00	6.00	0.54	8.40	0.70	6	degree	Artistic performance	4

**From Table No. 2,** By observing the results of the pre- and post-tests of physical, motor, and skill, we find that the (sig) value is less than the significance level (0.05) for all tests in the research variables. This indicates the significance of the differences between the pre- and post-tests, in favor of the post-tests. The researcher believes that the standardized scientific preparation of Battle Rope exercises and the use of the interval training method have a positive impact on physical and motor abilities due to its characteristics and advantages and its adherence to scientific principles, which stipulate that progress in the level of physical and motor abilities occurs as a result of the correct exchange between work and rest according to a scientific method and sound planning. Risan Khuraibat (1995) states that organized and programmed training, the use of standardized intensity in training, and the use of optimal types of rest between repetitions lead to an improvement in the level of athletic achievement. The researcher attributes this result to the use of Battle Rope exercises, which contributed to improving the physical and skill levels of gymnasts, and that strength training using Battle Rope led to a difference in the levels of abilities according to their types in favor of the dimensional measurement, and what it included of various exercises using Battle Rope included all the body muscles and exercises for specific physical preparation that aims to develop the muscles working in the skill under study, and this improvement in the level of physical variables is due to the nature of the exercises and what it contains of physical exercises using Battle Rope resistance appropriate to their capabilities and abilities and

standardized load and directed to develop these physical and motor abilities. The development of physical and motor abilities and basic skills is due to the gradual increase in the intensity of the load used in the training units, as this achieved a state of adaptation required to the intensity and volume and the progress of the training units, which led to the development of physical and motor abilities, as Kamal Al-Rabdi (2004) confirms that “there is importance in gradual use of the intensity of the load from low to medium to pre-maximum to maximum, according to the nature and conditions of the competition or training, and it is linked to the type of activity or game that the athletes specialize in, and the Battle Rope auxiliary exercises that were used in the main part of the training unit had a positive impact in developing and enhancing physical and motor abilities and skills, which helped to add an element The excitement and suspense among the players led to a rapid development through the exercises that the researcher prepared in a precise and thoughtful manner, as the researcher agrees with what was confirmed by (Amin Al-Kholi and Adly Hassan: 1991) that “the training methods work on the comprehensive and balanced preparation of the gymnast player through the development of his physical and motor abilities.”

### Conclusions:

- 1- Battle Rope exercises improve the physical and motor abilities of players.
- 2- Battle Rope exercises improve the skill performance on the ring device in men's artistic gymnastics.

### - Recommendations:

- 1- Implement Battle Rope exercises when developing training programs for female, junior, and youth gymnasts, given their positive effects on physical abilities and skill performance.
- 2- Use Battle Rope exercises when developing training programs in general for all apparatus, given their positive effects on physical requirements and skill performance.

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Sample exercise

the first	week	Developing physical and motor abilities and technical performance on thering device				goal the	
D 1 8 .5 3	Main section time	1	Training unit	% 80		intensity	
Total exercise time	Performanc e time	Comforts Tha		Size		Exercise code	
		Between n groups	Between repetitio n	Grou ps	repetit ion		
6.2	Tha 18	120	36	2	3	From a standing position width -with the feet chest apart and the knees slightly bent, the player holdsthe Battle Rope with both hands. When the coach's whistle is heard, he moves both hands .then down together up and	1
4.13	Tha 16	120	32	2	2	From a standing position, the player holdsthe Battle Rope with both hands. When the coach's whistle is heard, he moves his hands and feet .together to the side	2
4	seconds 15	120	30	2	2	From a standing position width -feet chest with the apart and the knees slightly bent, the player holdsthe Battle Rope with his hands. When he hears the coach’s whistle, he moves his hands crosswise up and down .while moving to the sides	3
4.2	seconds 12	120	24	2	3	,From a standing position the player holdsthe Battle Rope with both hands. When the coach's whistle is heard, he makes a cross movement with his hands up and down and his legs forward and .backward	4