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## The effect of competition exercises accompanied by mental training on the development of performance endurance and Eurostep and Fluttershot skills for basketball players aged (14-16) years

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### Abstract

Mastering offensive skills (Eurostep and Flutter Shot) is one of the most important topics that concerns those concerned with the game recently, and it has become a given that raising the training level of any player cannot be advanced, whether physical, tactical, or psychological, without learning the technical performance of all the basic and complex skills of the game, and from Here, these skills cannot be overlooked as they are the basis of modern offensive team play and are relied upon in matters of collective team movement (tactics). The development of these skills requires training using modern and advanced methods that take into account the requirements of the physical game. Therefore, the researcher decided to develop competition exercises that accompany mental training in order to develop performance endurance and Eurostep and Fluttershot skills for basketball players aged (14-16) years as a serious attempt to develop the tactical, psychological and skill level of the players. The problem of the research was embodied in answering some questions, which is the search for answers to some questions. Do competitive exercises accompanying mental training have a role in the development of performance endurance for basketball players aged (14-16) years, and for the legs of young basketball players? Do competitive exercises accompanying mental training have a role in developing the Eurostep and Fluttershot skills for basketball players aged (14-16) years. The objectives of the research were to prepare competition exercises that accompany mental training to develop performance endurance and the Eurostep and Fluttershot skills for basketball players aged (14-16) years, and to identify the effect of competition exercises that accompany mental training to develop performance endurance and the Eurostep and Fluttershot skills for basketball players aged (14-16). There are statistically significant differences between the experimental group and the control group in the pre- and post-tests in the development of performance endurance and the Eurostep and Fluttershot skills for basketball players aged (14-16) years. The researcher used the experimental method (two equal groups) as it is the most appropriate method to solve the research problem. The research community included Al-Karkh Sports Club players aged (14-16) years, with (14) players. The community was divided into two groups, one experimental and the other a control group. Each group consisted of (7) players. The conclusions were that there was an effectiveness of competition exercises accompanying mental training. In this study on developing offensive skills (Eurostep, Fluttershot), and the effectiveness of competition exercises associated with mental training. In this study on special endurance (performance endurance).

**Keywords:** Mental training, basketball players aged (14-16) years, Eurostep and Fluttershot

### Introduction

Basketball is one of the fast games that has spread widely in many countries of the world because of its excitement in both individual and group performance, and for the purpose of developing players according to the stages of preparation, especially the stages that are concerned with skill and tactical preparation, and in order to put the trainee or player in similar conditions. In competition situations, to a degree closer or slightly higher than the endurance of competitions and in all games, as well as the endurance of psychological and physical pressures, as well as taking into account their capabilities, physical abilities, and function, here it was necessary to find training methods and techniques in which change and diversification is the basis for achieving the creation of better conditions within the training units and also creating performance opportunities quite similar to game situations skills. Consequently, we found new training methods and methods in training through which we

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work on a set of psychological and tactical skill variables at the same time, which saves the coach effort and time in implementing the training units. One of the most recent of these methods is the competition exercises method, which aims to continue training while adhering to the law of the game and creating a competitive atmosphere during training and the use of play and competition in the game for the purpose of reaching the goal of the training process. This training process is accompanied by (mental training), as one of the most important phenomena in learning motor skills is the effect of mental training, which is the perception of an accomplished performance without being linked to an apparent action, which produces a significant positive transfer in the real learning of the skill, as there is a lot of research, In the studies that have been conducted on this subject, it has been found that physical exercise improves the benefit of mental training, meaning that mental training is better if it is preceded by physical exercise. It has also been found that mental training is not purely mental, but rather is physical exercise as well.

Mastering offensive skills (Eurostep and Flutter Shot) is one of the most important topics that concerns those concerned with the game recently, and it has become a given that raising the training level of any player cannot be advanced, whether physical, tactical, or psychological, without learning the technical performance of all the basic and complex skills of the game. Hence, these skills cannot be overlooked as they are the basis of modern offensive team play and are relied upon in matters of collective team movement (tactics). The development of these skills requires training using modern and advanced methods that take into account the requirements of the physical game. Therefore, the researcher decided to develop competition exercises that accompany mental training in order to develop endurance. Performance and Eurostep and Fluttershot skills for basketball players aged (14-16) years as a serious attempt to develop the players' tactical, psychological and skill level.

**Research problem**

The nature of the basketball game requires the integration of the components of sports training, especially the physical aspect (special endurance) and its reflection on the skill aspect and in light of the development of offensive methods. It has become important to research the development of the

physical and defensive aspects through individual and collective skills. This is the reality of the game recently, as it requires energy and high effort by the players throughout the match to perform their skills in the best way to achieve victory. Therefore, it is important to train in a way that is appropriate to the requirements of the game in terms of speed and endurance throughout the match. Therefore, the researcher tried in his research to answer some questions, which are:

1. Do competitive exercises accompanying mental training have a role in the development of performance endurance for basketball players aged (14-16) years for the legs of young basketball players?
2. Do competitive exercises accompanying mental training have a role in the development of Eurostep and Fluttershot skills for basketball players aged (14-16) years?
3. Knowing the reality of the players and their levels of special endurance and the Eurostep and Fluttershot skills.
4. Is there a significant difference between the pre- and post-tests in performance endurance and the Eurostep and Fluttershot skills for basketball players aged (14-16) years?

**Research objectives**

1. Preparing competition exercises associated with mental training to develop performance endurance and Eurostep and Fluttershot skills for basketball players aged (14-16) years.
2. Identifying the effect of competition exercises associated with mental training on the development of performance endurance and Eurostep and Fluttershot skills for basketball players aged (14-16) years.

**Research scope**

1. **Human field:** Al-Karkh Sports Club players.
2. **Time frame:** From 9/1/2023 to 2/1/2024.
3. **Spatial field:** Al-Karkh Sports Club Hall in the capital, Baghdad.

**Research Methodology and Its Practical Procedures**

1. **Research Methodology:** The researcher used the experimental method (two equal groups) as it is the most appropriate method to solve the research problem.

**Table 1:** The Experimental design of the research groups

Group	Pre-test	Experimental Treatment	Post-test
Experimental	Performance endurance and Eurostep and Fluttershot skills	Competition exercises accompanied by mental training	Performance endurance and Eurostep and Fluttershot skills
Controlling	Performance endurance and Eurostep and Fluttershot skills	Exercises prepared by the trainer	Performance endurance and Eurostep and Fluttershot skills

**Research community**

The research community included Al-Karkh Sports Club players aged (14-16) years, with (14) players. The community was divided into two groups, one experimental and the other a control group, each group consisting of (7) players.

**Methods, Tools and Instruments Used in Research**

**Means of collecting information**

1. Personal interviews.
2. References and sources.
3. The Internet.
4. Tests and measurement.

5. Registration form.

**Devices and tools used in the research**

1. Rubber band.
2. Measuring tape.
3. A stop watch to measure time.
4. Laptop (FUJITSU).

**Description of the tests used in the research**

**1. Performance endurance test (peaceful aiming skill)**

**Peaceful aiming test for (30) seconds**

**Purpose of the test**

To measure the endurance of peaceful shooting.

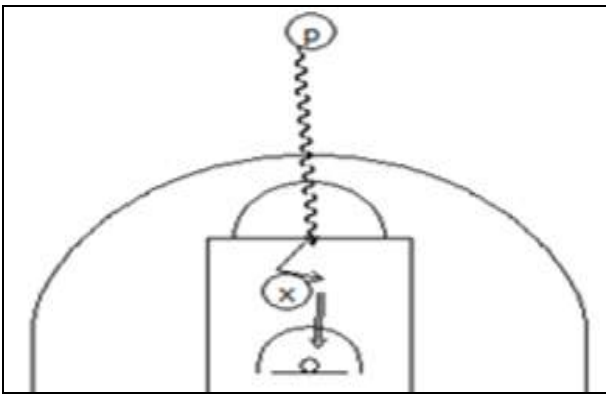
### Description of the performance

The experimenter stands at the free throw line, holding the ball in his hands, and when he hears the whistle, he performs the safe shot in any direction he desires. Then he returns to take a second ball on the chair and at the free throw line to complete the safe shot for up to (30) seconds, knowing that he leaves the ball after that shot for a player to do. Another to put her back on the chair

### Registration

One point is counted for each successful hit, and the number represents the number of hits that achieved their goals within (30) seconds.

## 2. Name of the test: Euro Step skill test



**Test purpose: To measure the performance endurance of the Euro Step skill**

**Time:** 40 seconds

**Equipment and tools:** Basketball court, 2 basketballs, duct tape, 5 signs, whistle, stopwatch.

**Description of the performance:** The player (P) stands with a ball in the middle of the court and starts dribbling toward the basket with a defender below the free throw line, where he defends in a man-to-man manner. Then the player performs the skill to get rid of the defender and shoot at the basket, then takes the ball and performs the skill on the same basket. In the same way as before, in terms of defense and the way the skill is performed.

### 1. Register

- If the player is able to get rid of the defender while performing the skill correctly in terms of technical performance (ending with a successful goal), two points are given.
- If the player is able to get rid of the defender while performing the skill correctly in terms of technical performance (ending with a failed goal), he is given a point.
- If the player is unable to get rid of the defender, he is given a zero.
- If the time expires before completing the attempt, one point is awarded for the skill performed.

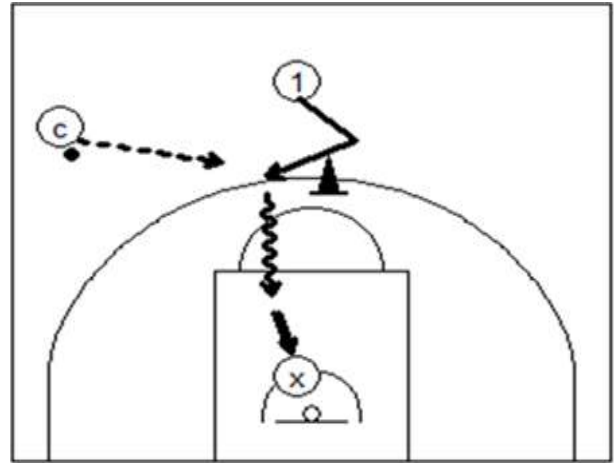
## 2. Test name: Ability to perform the Flutter Shot skill

### Objective of the test

To measure the performance endurance of the Flutter Shot skill.

### Performance time

40 seconds.



Description of the performance. From the middle of the field, player No. (1) performs the deception skill, then receives the ball and enters the basket to perform the flutter shot skill with a tall defender in the forbidden area.

### Register

- In the event that the skill is performed correctly in terms of technical performance, including hand technique, the arc of the ball's flight, and the success of the shot, the player will be given 2 marks.
- If the skill is performed correctly in terms of technical performance, including hand technique and the arc of the ball's flight, and the shot is not successful, the player will be given a score of 1.
- If the defender is able to prevent the ball from reaching the basket (block shot), the player is given a zero.

### Exploratory Experience

Before undertaking the main experiment, it was necessary to conduct a reconnaissance experiment on a small sample in the research community on Thursday, September 7, 2023. Its purpose was to test the research methods and tools, and to experiment with physical and mental exercises and how to apply them, in addition to extracting the scientific foundations for the field intelligence scale. The researcher conducted an exploratory experiment on a sample of (8) players.

### Pre-test

The pre-test for the research sample was conducted on Sunday, September 10, 2023, at exactly 4:30 pm, in the Karkh Sports Club Hall, and all variables were controlled in terms of time, tools and devices, as well as the supporting work team, to be applied when conducting the (post-test).

### Main experience

After conducting the pre-test, the researcher applied the exercises to the experimental research group on Wednesday, September 12, 2023, for a period of 8 weeks.

- Number of units per week (3) units represented by days (Saturday, Monday, and Wednesday)
- The researcher used the playing method to implement the exercises prepared by him.

- For the experimental group (playing method, mental training on the same day, and mental training shortly before the training unit

The training implementation time ranges between (30-35) minutes of the main section of the training unit.

- Performance endurance training is through skill performance and not individually.
- The maximum intensity of the playing method was determined from (the rhythm of play) during a time period of (10 minutes), and thus the number of playing attempts was determined. The intensity used was from 90 to 100%.
- The number of exercises in the main section of the experimental group ranged from 3 to 4 exercises.
- The ratio of work to rest is 2:1.
- All the researcher’s training during the special preparation period and semi-competitions.

**Second: Mental training**

The researcher reads the technical description of the skill for the players who will be training.

- Displaying the skill through smart devices

- Showing models of new performance
- Giving players an opportunity to talk about skill
- The researcher gives room for mental visualization of the skills being investigated
- The time to think about performing the skill is relatively short for fear of thinking about something else.

**Post-test**

After completing the implementation of the competition exercises accompanying the mental training, the post-test was conducted for the experimental group on Tuesday, November 14, 2023 at exactly (4:30) in the afternoon, taking into account all the time and space conditions of the pre-test with the help of the work team. The post-test was applied in a hall. Al-Karkh Sports Club.

**Statistical methods used**

- Arithmetic mean.
- Standard deviation.
- Coefficient of variation.
- Simple correlation (Pearson).
- Test (T-TEST) for independent samples.

**Table 2:** Arithmetic means, standard deviations, t value, and significance level for the differences between pre- and post-tests in the research variables for the control group

Sig.	Sig. Value	T	Sample Size	Post-test		Pre-test		Measure unit	Test
				G	H	G	H		
Significant	4.11	0.000	1.87	0.92	4.97	1.000	4.11	Degree	Endurance performance
Significant	2.86	0.000	12.09	1.03	7.81	0.815	2.86	Degree	Eurostep skill
Significant	2.39	0.002	15.82	0.92	7.53	0.702	2.39	Degree	Fluttershot skill
Significant	4.11	0.000	1.87	0.92	4.97	1.000	4.11	Degree	Endurance performance

The table shows that the significance level values of the (t) test for correlated samples and for all variables were smaller than the error rate (0.05).

This indicates that there are significant differences between the pre- and post-tests for the control group sample and in favor of the post-tests.

**Table 3:** Arithmetic means, standard deviations, t value, and significance level for the differences between the pre-and post-tests in the research variables for the experimental group

Sig.	Sig Value	T	Sample size	Post-test		Pre-test		Measure unit	Test
				G	H	G	H		
Significant	4.21	0.095	15.02	1.23	12.16	1.05	4.21	Degree	Endurance performance
Significant	3	0.000	19.05	1.40	12.002	1	3	Degree	Eurostep skill
Significant	2.19	0.000	23.21	1.39	13.02	0.60	2.19	Degree	Fluttershot skill

The table shows that the significance level values of the (t) test for correlated samples and for all variables were smaller than the error rate (0.05).

**Table 4:** Arithmetic means, standard deviations, t-value, and significance level of the differences between the control and experimental groups in the research variables in the post-tests

Sig.	Sig. value	T	Sample size	Post-test		Pre-test		Measure unit	Test
				G	H	G	H		
Significant	4.97	0.000	13.51	1.23	12.25	0.92	4.97	Degree	Endurance performance
Significant	7.81	0.000	6.002	1.40	12.01	1.03	7.81	Degree	Eurostep skill
Significant	7.53	0.000	5.831	1.39	13.02	0.92	7.53	Degree	Fluttershot skill

This indicates that there are significant differences between the pre- and post-tests for the experimental group sample and in favor of the post-tests.

The table shows that the significance level values of the (t) test for independent samples and for all variables were smaller than the error rate (0.05). This indicates that there are significant differences between the results of the control and experimental groups in the post-tests and in favor of the experimental group.

**Results Distribution**

By presenting the results of measuring performance endurance and the Eurostep and Fluttershot skills shown in the tables above, if a t-test was used, there appeared to be a significant difference between the experimental and control groups, in favor of the post-test of the experimental group. The researcher attributes the reason for this development and superiority of the experimental group over the results of the control group’s tests, to Competition exercises

accompanied by mental training, which helped develop the investigated skills in a way that simulates their performance in the match. In addition, it included performing at high intensity and speed, and having a long rest period to give sufficient time for recovery. "Because the nature of the exercises for developing these skills is characterized by a short duration of performance, maximum intensity, and a long rest period, to give sufficient time for the recovery of the phosphate components. Also, directed exercises are various exercises, so it makes sense to develop the quality that you are working on." Competition exercises are also very useful, especially In games that require strength in jumping and speed in performance, these exercises include the entire rules of play, and employing that in the real playing situation,

## Conclusions and Recommendations

### Conclusions

The conclusions of most experimental research are determined by their results, as they (experimental research) are defined by independent variables whose influence on certain dependent variables is intended to be studied. These conclusions are:

1. The effectiveness of competition exercises accompanied by mental training in this study in developing offensive skills (Eurostep, Fluttershot).
2. The effectiveness of competition exercises associated with mental training in this study on special endurance (performance endurance).
3. There appeared to be statistically significant differences in the development of offensive skills (Eurostep, Fluttershot, Receiving) and special endurance (performance endurance).

### Recommendations and Suggestions

**In light of the research findings, the researcher recommends the following**

1. Paying attention to training the researched skills (step back, handoff, Eurostep, Fluttershot, receiving the ball in the area near the basket, offensive blocking) and special endurance (strength endurance of the legs, speed endurance, performance endurance, strength endurance of the arms).
2. Use the exercises prepared in this study by basketball coaches, due to their positive impact on developing modern offensive skills.
3. The need to diversify the use of training methods used by trainers.

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