

THE EFFECT OF EXERCISES USING A MINI SQUASH COURT ON IMPROVING SOME MOTOR ABILITIES AND LEARNING SOME BASIC SKILLS FOR PLAYERS AGED 10-12 YEARS

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Abstract

The studies and research in the field of motor learning that dealt with the game of squash are numerous, and through the researchers' examination of many educational curricula, it was found that they begin at advanced ages. Therefore, it requires the presence of large halls, large rackets, and balls with high rebound speeds, which makes the use of these tools for a young age group difficult. Very much, especially since the squash ball needs to be hit hard against the front wall in order for it to bounce naturally, and it is difficult for this group to play the ball forcefully, so it becomes a very difficult thing for the child to continue playing the game for the game, and children at this stage are looking for a game that contains fun and ease in learning. As children of this age find it difficult to learn the basic skills of squash on legal courts, which require a high skill and physical effort from the learner in order to learn. From this came the problem of research into using a mini squash court, including miniature tools such as a racket and a ball, and knowing their effect on improving motor abilities and learning some basic skills in squash. The most important goals: identifying the effect of exercises using a mini squash court to improve motor abilities and learn some basic skills. The research community represents a number of players from the Jadriya Squash Academy aged 10-12 years, numbering 26 players. The research sample was chosen intentionally, as this is the best age stage for teaching players to perform basic skills and thus they will have a longer training age compared to their peers. While the number of the study sample reached (20) players after excluding the players to conduct the exploratory experiment and excluding those who were absent and non-compliant, their percentage of representation of the research community was (76.92%). The most important conclusions and recommendations: The use of the mini squash court (Mini Squash) is suitable for developing the compatibility abilities in order for the player to follow the path The ball and moving towards it in a small area enables him to quickly identify stimuli. The researchers concluded that using a mini squash court with a racket and light, high-rebound balls led to the development of motor and skill aspects in a balanced manner. The researchers recommend that this study should be circulated and used in schools for ease of planning, as it only needs a front wall to teach the players. The researchers recommend focusing on using all means, devices, and tools that simplify skill performance for the age group (10-12) years, which is reflected

positively in the learning process. Using educational units that develop the motor and skill aspects together reflects positively on the performance of the Educational Process.

Introduction

Introduction and Importance of Research

The scientific development taking place in the sports field has imposed new and limitless horizons in the sports sciences, such as motor learning and sports training, which are witnessing widespread development, and their theories have taken a new curve to keep pace with modern trends in learning and training, in order to achieve the best good results by following accurate and objective scientific methods. In a sound and planned manner, since learning is the initial stage of training for any sporting event, and motor learning in general deals with human movement in general and sports movement in particular through study and analysis to identify the different dimensions with which we can approach movement (1) One of the most important things for humans is learning at an early age, as it is the basis of sporting events that relate to mastering the basic skills specific to each sporting event, especially the game of squash, the mastery of which requires a long life of education and training due to the large number of movements and skills that must be available to perform various technical skills on the court, and this It is linked to creating a good base for building a player at an early age. In learning movements and skills, most studies emphasize the importance of starting to teach technical skills to young age groups, using curricula and educational methods in order to give a positive impact on the speed of learning and mastering those movements. One of these sports is squash, which is characterized by its A game for all ages, from children to adults, and for both genders.

The researchers touched on the subject of the mini squash court, which is played by young people aged between 10-12 years. Its aim is to create a suitable climate for young players, as well as to build a broad base for the game in the easiest learning methods. It is one of the important effective methods that is presented to young children in a fun and effective manner. Using methods that are close to the basic rules of the game and an attempt to implement what is happening in developed countries (2)

Here lies the importance of research in using miniature tools such as a racket, ball, and court, thus bringing about changes and developments in some motor abilities that are reflected positively in improving the skill field, which leads to enabling them to obtain the best results for developing the initial basic skills in squash.

Research Problem

The studies and research in the field of motor learning that dealt with the game of squash are numerous, and through the researchers' examination of many educational curricula, it was found that they begin at advanced ages. Therefore, it requires the presence of large halls, large rackets, and balls with high rebound speeds, which makes the use of these tools for a young age group difficult. Very much, especially since the squash ball needs to be hit hard against the front wall in order for it to bounce naturally, and it is difficult for this group to play the ball forcefully, so it becomes a very difficult thing for the child to continue playing the game for the game, and children at this stage are looking for a game that contains fun and ease. In learning. As children

of this age find it difficult to learn the basic skills of squash on legal courts, which require a high skill and physical effort from the learner in order to learn. From this came the problem of researching the use of a mini squash court, including miniature tools such as a racket and a ball, and knowing their effect on improving motor abilities and learning some basic skills in squash.

Research objectives

1. Prepare exercises using a mini squash court to improve motor abilities and learn some basic skills for players aged 10-12 years.
2. Identify the effect of exercises using the mini squash court to improve motor abilities and learn some basic skills for players aged 10-12 years.

Research hypothesis

There are statistically significant differences between the pre- and post-tests in improving some of the motor abilities of squash players aged 10-12 years.

There are statistically significant differences between the pre- and post-tests in learning some basic skills for squash players aged 10-12 years.

Areas Of Research

- Human domain - Jadriya Squash Academy sample aged (10-12) years.
- Time frame - for the period from 2/4/2023 to 4/6/2023.
- Spatial field - squash courts at the University of Baghdad/College of Physical Education and Sports Sciences, Al-Jadriya.

Define Terms

Mini Squash Court

The game is directed at children to practice squash using a small court, a small racket, and high-bouncing balls. Among its advantages, it can be created in schools and any open place, and it only needs a front wall to perform technical skills in a simplified manner on it.

Research Methodology and Field Procedures

Research Methodology

Each research has its own method that depends on the nature of the problem. In this study, the researchers used the experimental method in the style of one experimental group with a pre- and post-test because it suits the nature of the research, which is considered “the closest and most truthful solution to many scientific problems practically and theoretically.

The research community and its sample

” The objectives that the researcher sets for his research and the procedures that he will use will determine the sample that he will choose” (2), as the research population represents a number of players from the Jadriya Squash Academy aged (10-12) years, amounting to 26 players, as the research sample was chosen intentionally, Because this is the best age stage for teaching players to perform basic skills and thus they will have a longer training age compared to their peers, while the number of the study sample was (20) players after excluding the players to conduct the exploratory experiment and excluding those who were absent and non-compliant, and their percentage of representation of the research community was (76.92%), and because The close

age of the study sample and its specificity, which takes into account its homogeneity, as they are aged (10-12) and are equal in average height and age.

Means of Collecting Information, Tools and Devices

Means of Collecting Information

- Arab and foreign sources and references
- International Information Network (Internet)

Research tools

- Mini squash court (area 3 x 4.5 m)
- Small tennis rackets (20)
- High rebound rubber balls (10)
- Multiple high-rebound rubber balls (10)
- Signs number (8)
- Training ladder number (5)
- Measuring tape (1)
- Separating strips to define the boundaries of the mini-playing field .

Devices used

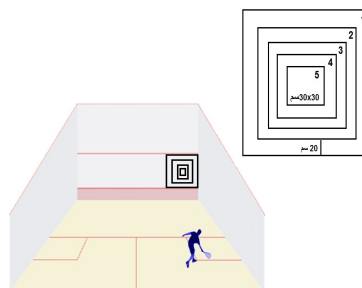
HP laptop

- Balance measuring device.
- Sony electronic stopwatch, 1 piece.
- Manual electronic calculator, 1 piece.

Field research procedures

The exploratory experiment

The two researchers conducted the exploratory experiment, which is “a mini-experiment similar to the real experiment” An exploratory experiment was conducted on a number (4) outside the study sample through the assistance of the assistant work team Its purpose is for the research sample to become familiar with the tools used during the exercises, including rackets. Short balls, multiple lightweight, high-rebound balls, and the mini court in which they perform the exercises, in addition to the method of conducting the tests. This was on Saturday, February 4, 2023, on the squash courts at the College of Physical Education and Sports Sciences, University of Baghdad, at four in the afternoon.



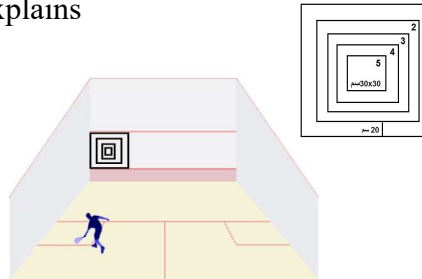
شكل (1)

Determine Research Tests

The necessary tests that suit the research sample were determined according to the following:

The first test: the straight forward strike towards the split target()

Test procedures: The test is conducted on a regular squash court using squash rackets, squash balls, and a registration form, where five square targets are drawn on the right side of the front wall, where the distance of the first square is 30 cm x 30 cm, and the distance between one square and the last is 20 cm. He explains



شكل (2) الضربة

Figure (3): Evaluation marks, players' standing area, and how to conduct the test.

Scoring points: Each player has 10 attempts. Points are calculated as follows:

points if the ball touches square No. (5), 4 points if the ball touches square No. (4), 3 points if the ball touches square No. (3), 2 points if the ball touches square No. (2), 1 point if the ball touches square No. (1), zero if it is outside the specified limits.

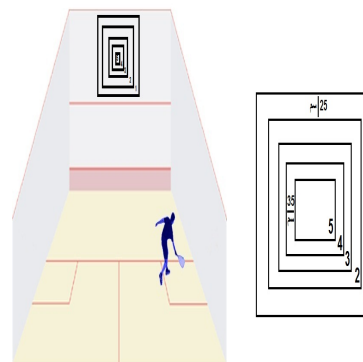
The second test: the straight back ground strike towards the divided target

Test procedures: The same specifications and method of measuring the previous test, but the test is performed from the left side of the court and with the back of the racket as a backhand shot, as in Figure (2)

Third test: Serving from the right side towards the divided target

-Purpose of the test: to measure the accuracy of transmission from the right side.

-Test procedures: The test is conducted on a legal squash court using squash rackets, squash balls, and a registration form, where five square targets are drawn in the middle of the front wall and at a height of 3 meters from the service line, where the distance of the first square is 30 cm x 30 cm, and the distance between one square and the last is 20 cm. Figure (2) shows the evaluation marks and the player's standing area when performing the test.



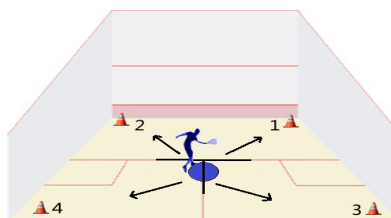
شكل (3)
الضربة

Performance specifications: The test includes the player to be tested standing in the right serving box, where the player stands in the correct stance for serving. After explaining the test, the player is given (5) trial attempts after the warm-up to learn how to perform the test. (10) attempts are allocated to each player, and when the signal is given, the player sends a serve. The ball is directed toward the divided goal. The test requires that the serve be correct.

Scoring points: Points are calculated for each correct serve as follows:

points if the ball touches square 5. 4 points if the ball touches square 4. 3 points if the ball touches square 3. Two points if you touch square 2. One point if you touch square 1. Zero if it is outside the specified limits.

Note: If the ball falls on one of the common lines, points are calculated for the larger square.



شكل (4)
قياس السرعة الانتقالية

Fourth test: Transitional speed test for squash players

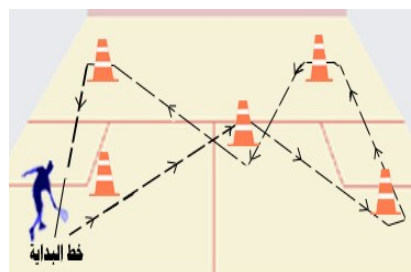
Purpose of the test: to measure the translational speed of squash players.

Testing procedures: The test is conducted on a squash court using squash rackets, all of which conform to the specifications of the World Squash Federation. A circle with a diameter of (1 m) is drawn between the short line and the short line.

The imaginary of the two rear service lines. Cones are placed in the four corners of the court, as in Figure No. (4)

Performance specifications: The tester stands in the circle drawn in the (T) area. When the start signal is given, the timekeeper starts the stopwatch and the player moves and performs imaginary strikes over the cones, taking into account the sequence in the performance, and then returning to the (T) area as quickly as possible.

Scoring points: The time taken is calculated from the moment the player moves to the first funnel and ends when the player returns to the middle of the field after moving to the fourth funnel.



شكل (5)
قياس الرشاقة

Fifth test: Zigzag run test using the Barrow method

Test purpose: to measure agility

Necessary tools: A rectangular running area, 4.75 meters long and 3 meters wide, a stop watch, five markers, with a distance of 2 meters between each marker.

Performance specifications: The player stands behind the starting line and when the start signal is given, he runs zigzagging between the five posts three times in a row, Figure No. (5)

Recording: The time it takes the athlete to cover the specified distance three times in a row is recorded from the moment the start signal is given until he crosses the finish line after the end of the third session.

Sixth Test: Throwing and Receiving Balls Test)

Purpose of the test: To measure coordination between the eyes and arms.

Tools: 20 tennis balls, a bounce wall, a line drawn 5 m from the wall.

Performance specifications: The tester stands in front of the wall and behind the line drawn on the ground. The test is carried out according to the following:

1. Throwing the ball five times in a row with the right hand, and the laboratory receives it after it bounces off the wall with the same hand.
2. Throwing the ball five times in a row with the left hand, and the laboratory receives it after it bounces off the wall with the same hand.
3. Throwing the ball five times with the right hand, and the laboratory receives it after it bounces from the wall to the left hand.
4. Throwing the ball five times with the left hand, and the laboratory receives it after it bounces from the wall to the right hand.

Scoring: For each correct attempt, the laboratory is credited with a score, meaning the final score is (20) points.

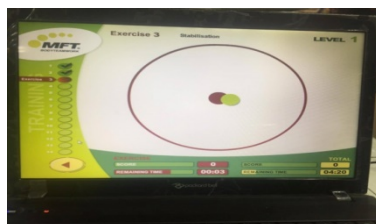
Seventh test: Numbered circles test

Test purpose: to measure the coordination of the legs and eyes

Necessary tools: A stop watch. Eight circles are drawn on the ground, each with a diameter of (60) cm. The circles are numbered in Figure (1)

Performance specifications: The tester stands inside circle No. (1) and when he hears the start signal, he jumps with his feet together to circle (2), then to circle (3), then circle No. (4), then (5) until circle No. (8) at full speed.

Recording: The laboratory records the time it takes to move through the eight circles.



Eighth test: balance (stability) test

Test name: Balance test.

شكل (6)

Performance specifications: The player stands on a balance device connected to the computer. Once the player stands on the device, he must stabilize and place his center of gravity, represented by the green circle, which is inside the center of the red circle, and try to balance for as long as possible.

Recording: The time it takes the player to maintain his body position inside the red circle is calculated, as in Figure (6)

Pretests

Pre-tests were conducted on Monday, February 6, 2023, on members of the research sample before starting to implement the exercises. Tests for motor and skill abilities related to the research were conducted with the help of an assistant work team and on the fields of the College of Physical Education and Sports Sciences in Al-Jadriya at four in the afternoon.

The main experience (educational curriculum)

The researchers prepared an educational curriculum using the mini squash court and its vocabulary as follows:

1. Exercises were used using a mini squash court.
2. The educational curriculum period was (8) weeks, each week containing (3) educational units.
3. The curriculum contains three introductory units and twenty-one educational units, which are as follows:

The implementation of the educational units using the mini squash court began on Wednesday, February 9, 2023.

The educational units ended on Wednesday, 4/5/2023.

Three introductory units were allocated to the three skills: the forehand, the backhand, and the serve, in which a simplified explanation and presentation of these skills and their performance by the research sample was given.

Three educational units were devoted to the skill of the ground forehand.

Three educational units were devoted to the backhand skill.

Three educational units were allocated to the transmission skill.

Six educational units were allocated that combine the three skills using the method of playing and integrating skills.

Six educational units were allocated to motor abilities.

Training days were Saturday, Monday, and Wednesday of each week.

The time of one educational unit is (45) minutes, the details of which are as shown in Table (1)

Table (1) It shows the divisions of one educational unit and its timing

the time	Including	sections
10 D	Warm-up + ball and racket sensation exercises	preparatory
30 D	Explanation of the skill + display of the model or pictures after which it is applied before and repeated until it is applied correctly	the main

Meaning of the difference	Sage	Value)v(The calculated one	P·F	s·F	P-	s-	the test	Still
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5 d	Small game	ultimate
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Post-tests

After completing the educational units, post-tests were conducted for the research sample in order to determine the effect resulting from the exercises used, through research tests and to find out the effectiveness of these exercises in developing motor abilities and the most important basic skills selected, on Thursday, 4/6/2023, on Squash courts at the College of Physical Education and Sports Sciences in Jadriya at four in the afternoon.

Statistical methods

The researchers used the statistical package (SPSS) to extract the research values and variables.

Presentation, analysis and discussion of the results

Presentation, analysis and discussion of the results of research tests

The table shows the arithmetic means, standard deviations, calculated T values (Table 2), and true significance between the pre- and post-tests of the motor and skill abilities tests for the research sample.

Discussing the results of tests of motor abilities and basic skills in squash

In light of the statistical results reached by the researchers, Table (2) shows that there is a statistically significant difference between the results of the pre- and post-tests, and in favor of the post-tests for the tests of motor abilities and basic skills in squash, with the difference in arithmetic settings, and this age stage is characterized by motor development, and this is consistent with what WajihMahjoub pointed out, motor development at this stage occurs as a result of directing and linking motor movements with the flow of athletic and basic movements. The flow reaches its peak in the third grade and is less than in the first grades since

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SOME BASIC SKILLS FOR PLAYERS AGED 10-12 YEARS**

moral	0.000	6.41	0.70	4.55	1.69	27.65	Tribal	Directfrontal ground strike towards the divided target
					2.44	32.20	after me	
moral	0.000	10.95	0.37	4.15	1.83	26.75	Tribal	Directground strike towards the divided target
					1.86	30.90	after me	
moral	0.000	12.76	0.30	3.85	1.48	26.75	Tribal	Serving from the right wing to the coordinator's goal
					1.93	30.60	after me	
moral	0.000	7.77	0.73	5.70	3.51	28.60	Tribal	Transitional speed test
					1.65	22.90	after me	
moral	0.000	11.45	0.64	7,35	3.59	30.30	Tribal	Agility test
					1.70	22.95	after me	
moral	0.000	7.37	0.31	2.35	1.46	12.60	Tribal	Testing the compatibility of the arm with the eyes
					1.39	14.95	after me	
moral	0.000	12.59	0.28	3.60	0.78	10.72	Tribal	Balance test
					0.99	14.33	after me	
					0.99	14.33	بعدي	

“children have different athletic and physical characteristics that can be observed compared to adults.” For example, they are smaller and less powerful, which confirms the necessity of making appropriate major transformations in the methods and means of learning, by having children play using short rackets with balls that fly low and do not jump up high. This is due to the use of exercises on the mini-squash court, which has proven effective in developing motor abilities, as movement in the small area of the mini-court will lead to the development of motor abilities related to speed and change of direction, which is the primary goal of the squash player to move quickly inside the court and then hit the ball to a far place. About the presence of the opponent, and this was proven by the results that showed an improvement in the level of agility, coordination between the arm and eyes, and balance during the prepared pause to wait for the opposing player to play the ball, as changing the location and area of the field on the players gave motivation to move and play more and thus move away from the routine, and this is what studies have confirmed. Research and the fact that motivation is one of the conditions for learning, as the child enjoys this condition as he is going through a stage of development, so most learning occurs in the early childhood stage because the child wants to learn, and this is what makes learning at this stage a feasible process. In addition to that, the use of lightweight, fast-rebounding and moving balls requires the player to constantly move, keep up with them, and

try to hit them away from the presence of the opponent. The game of squash requires speed in performance and the exchange of playing balls, and it requires speed to keep up with the opponent and overcome him in different areas of the court, as well as withdrawal. The quick jump to the middle of the court immediately after performing the shot to clear the way for the opponent to play the next ball. (Fakhri al-Din Qasim 2005) points out that special speed and balance exercises in the game of squash: static and moving balance, stopping speed, speed of deception, and speed of changing direction are important, as we need speed in its various forms. Through the continuous movement of the players on the field and the movement of the arm while hitting the ball

The exercises used facilitated the performance of the exercises through the playing area, as well as the use of short rackets that enable the player to have complete control over the racket and thus focus on the accuracy of directing the ball in the appropriate place, as the exercises focused on specific areas within the court to develop the player's ability to focus on playing the ball within the specific area and with specific repetitions. It led to the development of coordination between the arm and the eyes and thus accuracy in performing the technical skills of the game of squash, which is one of the games in which accuracy in playing the ball plays a major role in swinging the player's hand over the opponent by performing front and back ground strikes with accuracy, which does not give the opponent the opportunity to return the ball. As the main element in developing motor accuracy, controlling new motor skills, and continuing to add some exercises and motor skills during the sports training process contribute to ensuring motor mastery (), in addition to that, the use of light, high-rebound balls makes the players move more quickly first, and then perform repetitions. More than that was reflected positively in the development of the skill aspect represented by the basic basic skills of the players represented by the front and back straight stroke and the serve from the right side, as accuracy in squash is very important for the player's performance in the match as it enables him to perform the strikes in the appropriate place during the game, which leads to control of the match. And achieved victory In light of the above, the mini-squash court gives positive results and serves the physical, motor, and skill aspects. Thus, it is an ideal path for learning for players at this age stage who are distinguished by the ability to move quickly by changing directions. The mini-squash court invests this movement in acquiring motor abilities that are reflected positively in the development of performance. The skills associated with using short racquets and lightweight balls with high bounce, in addition to the need to hit the squash ball with force in order to obtain a natural bounce that allows for interchange of playing the ball, which this age stage cannot perform due to their lack of strength in hitting the ball.

Conclusions and recommendations:

Conclusions

In light of the statistical treatments of the results of tests of motor abilities and basic skills, forehand and backhand in squash and serve, which were presented, analyzed and discussed, the researchers reached the following conclusions:

1. Using a mini squash court is suitable for developing agility by moving in a small space in various directions, and this is what the results showed.
2. Using a mini squash court is suitable for developing coordination abilities so that the player follows the path of the ball and moves towards it in a small area that enables him to quickly identify stimuli.
3. Using short rackets on the mini squash court gave the player greater control over the racket, which was reflected positively in the accuracy of the forehand and backhand shots, in addition to the serve.
4. Using lightweight, high-rebound balls enabled the player to hit the ball comfortably and with a high bounce, which reflected positively on the development of accuracy and skill performance.
5. The use of lightweight, fast-moving balls gave the players great repetitions and thus developed skill performance, which improves with repetition of skill performance.
6. The researchers concluded that using a mini squash court with a racket and light, high-bouncing balls led to the development of motor and skill aspects in a balanced manner.

Recommendations

1. It is necessary to circulate this study and use it in schools for ease of planning, as you only need a front wall to teach the players.
2. Benefiting from the exercises prepared by the researchers in preparing similar curricula to develop the accuracy of other technical skills.
3. Focus on using all means, devices and tools that simplify skill performance for the age group (10-12) years and which is reflected positively in the learning process.
4. The need to diversify and innovate exercises that stimulate learning motivation, especially for the age groups of 10-12 years, to keep them away from boredom.
5. Applying it to other samples of different gender and age.
6. Using educational units that develop the motor and skill aspects together reflects positively on the performance of the educational process.

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