

ESTABLISHING CRITERIA FOR EVALUATING THE PERFORMANCE OF DEFENSIVE SKILLS IN YOUTH BASKETBALL PLAYERS

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Abstract

The research aims to investigate the normative levels of young men in the field of basketball defensive skills and establish performance criteria for youth in some basketball defensive skills. The research sample consisted of 105 young basketball players from 8 clubs in Iraq. The defensive skills and their tests in basketball were identified, based on studies that focused on the most researched skills in the scientific field of basketball, including their tests. These recent studies, applied to a similar sample in the Iraqi environment, helped in determining the defensive skills and tests under investigation, which include defense against pivoting, test of defense against pivoting, defense against passing, test of defense against passing, defense against jump scoring, test of defense against jump scoring from inside the three-point arc, defense against layup scoring, test of defense against layup scoring, and defensive rebounding (defensive following), test of defensive rebounding (defensive following). Scientific tests were adopted, and the researcher conducted scientific procedures for the tests, including validity, reliability, and objectivity. Subsequently, the researcher utilized the Statistical Package for the Social Sciences to extract results, leading to conclusions that determined the normative scores for the defensive skill tests of young basketball players. Consequently, criteria were established for these skills, achieving high percentages in both above-average and below-average levels. The research recommendations include focusing on standardized tests as an objective means to assess the athletic performance of players. Coaches should utilize the study's results in planning and implementing training programs. It is advised to repeat such studies every two years to monitor the development of players' abilities and levels.

Keywords: Criteria, Evaluation, Defensive Skills, Basketball

Introduction

Tests and measurements are a critical evaluative tool concerned with diagnosis and guidance, and they serve as scientific indicators of good research built on sound foundations. Thus, they are an essential means of evaluating programs, curricula, and various plans for all levels and age stages in all sports activities. The significant achievements in sports activities are not a matter of chance but the result of long-term planning. This planning involves several stages preceding the development of training curricula, the first of which is determining the level of young players

through the use of tests and measures that help in identifying their skill level for optimal preparation.

Basketball is a team sport that has attracted the attention of professionals and specialists in this field to achieve optimal performance. This is achieved through reliance on scientific studies and research and the utilization of other sciences to improve the overall level of the game. To understand the level reached by the players, it is essential to diagnose the effectiveness of the players' performance through tests and measurements, which are among the most commonly used evaluation tools. Therefore, it is necessary to find appropriate methods to identify the players' weaknesses through tests and measurements, analyze them, and then develop suitable solutions and judgments that will lead to improving the team's performance and achieving advanced results in championships. Hence, the importance of this research lies in relying on scientific foundations to determine the grades and normative levels for evaluating the performance of players in certain basketball defensive skills. By following scientific methods in determining the normative levels of players, which include accurately identifying their offensive and defensive skill levels, it facilitates the assessment of the players' levels and their scientific and accurate evaluation.

Research Problem

Professionals interested in enhancing performance in basketball are keen to utilize all capabilities and knowledge, focusing on studies, research, and benefiting from various sciences, including tests and measurements. Through her analysis, the researcher identified a deficiency in the fundamental assessment methods used by coaches to evaluate the performance of young players in basketball defensive skills. This led to the initiative to define evaluative criteria based on scientific principles in tests and measurements to improve this assessment.

Research Objectives

Investigate the normative levels of young players in the field of basketball defensive skills.

Establish performance criteria for youth in certain basketball defensive skills.

Research Areas

Human Domain: Young players belonging to clubs in Iraq and participating in the 2023-2024 season.

Temporal Domain: From June 15, 2023, to October 16, 2023.

Spatial Domain: The facilities of the specified research clubs in Iraq.

Material & methods

Research Methodology: To address the research problem, the researcher employed a descriptive survey method.

Research Population and Sample:

The research sample consisted of 102 young basketball players from various clubs in Iraq, distributed across 8 different clubs. To ensure the homogeneity of the sample, the skewness coefficient was used. Table (1) demonstrates the homogeneity of the sample in terms of physical variables such as weight and height

It demonstrates the homogeneity of the sample in the physical variables (weight, height)

Variables	Measurement Unit	Mean	Median	Standard Deviation	Skewness Coefficient
Height	Cm	165.70	165.01	10.102	0.23
Weight	Kg	56.80	56.07	12.21	0.73

Means of Collecting Information:

To attain comprehensive scientific facts, it is essential for the researcher to rely on appropriate methods and means to achieve accurate results. This involves a range of data collection tools and techniques,

Identification of Defensive Skills and Their Tests in Basketball:

The researcher relied on studies that focused on the most researched skills in the scientific field of basketball, including their tests. By referencing these contemporary studies, which were applied to a similar sample and within the Iraqi environment, the defensive skills and their respective tests under investigation were identified. Defense Against Pivoting, Test of Defense Against Pivoting, Defense Against Passing, Test of Defense Against Passing, Defense Against Jump Scoring, Test of Defense Against Jump Scoring from Inside the Three-Point Arc, Defense Against Layup Scoring, Test of Defense Against Layup Scoring, Defensive Rebounding (Defensive Following)

Test of Defensive Rebounding (Defensive Following)

1. Defense Against Passing:
2. Defense Against Pivoting.
3. Test of Defensive Skill Against Jump Shooting from Inside the Three-Point Arc.
4. Test of Defensive Skill Against Layup Shooting:
5. Test of Defensive Rebounding (Defensive Following):

Pilot Study

The pilot study was conducted by implementing the selected tests chosen by the researcher on a sample composed of players from the National Center for the Care of Sporting Talents in Basketball. This group consisted of 20 players from the research community but outside the main sample. The pilot study was beneficial in several ways:

1. Evaluation of the Suitability of the Utilized Tools.
2. Measurement of the Time Taken to Perform the Tests.
3. Assessment of the Efficiency of the Work Team and the Smoothness of Operations.
4. Enhancing the Accuracy of Measurement and Recording.
5. Diagnosis of Errors and Obstacles and Overcoming Them in the Pilot Study.
6. Implementation of the Scientific Foundations for the Tests.

The tests were re-administered after 7 days to ensure the scientific conditions (validity, reliability, objectivity) under the same circumstances and variables, as shown in Table (2) for the statistical coefficients of some defensive skills.

The Scientific Foundations of the Tests (Validity, Reliability, Objectivity)

Test Validity

The researcher relied on deriving the coefficient of face validity, which is "the validity of the experimental scores of the test in relation to the true scores that are free from measurement errors, thus making the true test scores the benchmark to which the test's validity is attributed.

Test Reliability (Test Reapplication)

The researcher conducted the tests on the same sample used in the pilot study under the same conditions and variables. After obtaining the data from both tests and statistically processing them, a Pearson correlation coefficient was found between the first and the second test. The results showed high correlation coefficient values, indicating that all the tests used in the research possess a high degree of reliability.

Test Objectivity

The researcher employed test objectivity through the calculation of Pearson's simple correlation coefficient between the scores recorded by two adjudicators from the auxiliary team (*). They individually recorded the test results for all the examinees and for every test separately at the same time. This recording occurred from June 23, 2023, to July 1, 2023, during and following the pilot study. Subsequently, the data were collected and statistically processed using Pearson's correlation coefficient, yielding highly objective results for all the tests.

Table (2) Illustrates the Statistical Coefficients (Validity, Reliability, and Objectivity) for the Tests of Certain Defensive Skills.

No.	Defensive Tests	Validity	Reliability	Objectivity
1	Defense Against Pivoting	0.99	0.89	0.88
2	Defense Against Passing	0.98	0.83	0.89
3	Defense Against Shooting from a Jump Inside the Three-Point Arc	0.93	0.84	0.89
4	Defense Against Lay-up Shooting	0.98	0.88	0.87
5	Defensive Rebounding	0.92	0.89	0.83

After the preliminary trial confirmed the validity of procedures and the accuracy of the tests and scientific methodologies, the main experiment was successfully conducted. The study encompassed 102 players, with the tests and both scientific and field applications carried out on the research sample from July 4, 2023, to September 13, 2023.

Statistical Methods: The researcher utilized the ready-made statistical package (SPSS) for deriving the formulas.

Display in Certain Defensive Skills

Table (3) demonstrates the mean values, standard deviations, and skewness coefficients for the tests of some defensive skills in the research sample.

Defensive Tests	Measurement Unit	Mean	Median	Standard Deviation	Skewness Coefficient
Defense Against the Passer	Score	17.59	17.50	4.20	0.04

Defense Pivoting	Against	Seconds and fractions	11.24	11.19	1.70	0.43
Defense Jump Shooting	Against	Points	6.25	6.00	1.58	0.06
Defense Lay-up Shooting	Against	Score	15.21	15.00	2.55	0.25
Defensive Rebounding		Count	12.54	13.00	1.86	0.18

Benchmarks were established for the defensive skills tests of youth club players using the Gaussian distribution method. These benchmarks represent the desired level for each category. The levels include:

1. The 'Below Average' group, constituting 15.73%
2. The 'Average' group, constituting 68.27%
3. The 'Above Average' group, constituting 15.73% These levels were determined based on empirical results and the normal distribution of data, where each level represents a specific range of athletic performance.

Table (4) delineates the set criteria and the corresponding raw scores for the tests involving certain defensive skills.

Normative Level	Range of Standard Scores	Range of Raw Scores for the Tests				
		Test of Defense Against the Passer	Test of Defense Against Pivoting	Test of Defense Against Jump Shooting	Test of Defense Against Lay-up Shooting	Test of Defensive Rebounding (Defensive Following)
Below Average	21-40	14,00-16,40	6,15-9,55	1,51-4,67	7,57-12,67	6,97-10,69
Average	41-60	16,41-18,80	9,54-12,95	4,68-7,83	12,68-17,77	10,70-14,41
Above Average	61-80	18,81-21,20	12,96- 16,3	7,84-10,9	17,78-22,87	14,42-18,13

Establishment of Normative Levels for Tests of Certain Defensive Skills:

The determination and discussion of normative levels for the test of defense against the passer:

Table (5) illustrates the percentage distribution of the sample's achievement in the normative levels for the test of defense against the passer.

Test Components	Sample Size	Normative Levels and Their Assigned Proportions in the Normal Distribution Curve					
		Above Average (15.73%)		Average (68.27%)		Below Average (15.73%)	
		Number	%	Number	%	Number	%
Test of Defense Against the Passer	102	30	29,41	48	47,05	24	23,53
Test of Defense Against Pivoting	102	24	23,52	42	41,17	36	35,29
Test of Defense Against Jump Shooting	102	31	30,39	39	38,23	32	31,37
Test of Defense Against Lay-up Shooting	102	31	30,39	47	46,08	24	23,53
Test of Defensive Rebounding (Defensive Following)	102	24	23,63	50	49,02	30	27,45

From Table (5), the researcher attributes the significance of passing as "the ability to pass the ball to an unguarded and waiting player in any style, indicating that the passer possesses excellent potential. This means that the player surpasses conventional methods when necessary, without violating the rules of the game. The researcher further attributes the importance of pivoting, a crucial skill in basketball, which, like other skills, requires extensive training. Therefore, it is an essential skill that coaches should focus on during training to enhance players' performance. This includes enabling the defender to pressure the pivot during play, forcing a five-second violation or blocking the path to the scoring area, which is vital for avoiding mistakes in the game. Regarding testing, the researcher notes that "shooting from a jump is one of the most effective offensive weapons, particularly given the defense's close marking, harassment, and continuous attempts to disrupt the ball from the attacker. The researcher also highlights the significance of lay-up shooting, "a shot performed when the player is pivoting or when receiving the ball from another teammate while running close to the opponent's basket. In the moment of catching the ball, the player takes two steps and then shoots

The researcher attributes the significance of defensive rebounding (pulling down rebounds) to its pivotal role in the game, noting that a team proficient in defensive rebounding can control the match and tilt the play in its favor. Therefore, it is essential for a coach to train players on how to effectively block opponents and leap high to control rebounds from the goal. Defensive rebounding offers the defender an opportunity to possess or control the ball rebounding from the basket and initiate a counterattack following an unsuccessful shot by the opposing team. Defensive rebounding in basketball relies not only on the element of height for controlling and securing rebounds or dispersing them but also requires players to be trained in adopting correct defensive positions. This is crucial during play to avoid in-game errors. A defender must be prepared for rebounds before, during, and after pulling the ball. This was emphasized by Sulwan Saleh (et al.), who noted, "Prior to pulling the ball, a defender's responsibility is to adopt the correct position by accurately anticipating the ball's fall and rebound trajectory post-shot.

The researcher stresses the importance of setting benchmarks for defensive skills in basketball, as this significantly enhances team performance and improves winning chances. These benchmarks are fundamental in developing basketball players defensively and include the following points: selection and defensive shooting, which involves developing players' ability to choose the appropriate moment to intervene and attempt to block the opponent's shot, with a focus on defensive shooting techniques. Team coverage necessitates defining roles and responsibilities in collective defense, aiding in minimizing gaps and enhancing coordination among players to thwart opponents' attacks. Proper movement requires players to understand the art of defensive movement, such as lateral movement and quick response to situational changes during the match, in addition to pressure and surveillance, enhancing skills in pressuring the opponent.

Preventing the creation of open spaces, along with mastering the arts of surveillance and communication within the field, and rapid response are essential. Developing players' abilities to swiftly react to opponents' movements and make decisions enhances their effectiveness. Providing standards for defensive skills tests enhances efficiency and effectiveness in player development and contributes to improving team performance in basketball. Assessing the current level and establishing specific test standards allows for the evaluation of players' performance in defensive skills, such as quick movement, reacting to attacking players, and effective coverage. This evaluation helps in understanding the current performance level and its impact on the overall team performance, identifying areas for improvement in defensive skills.

Using these standards, it becomes possible to identify skills that require more improvement, guiding players and coaches to focus on developing these weaker areas. The presence of standardized criteria encourages players to strive for better performance, fostering a competitive spirit in training and matches. It provides precise guidance for coaches on the areas to focus on in training, leading to the effective development of defensive skills. The researcher also emphasizes that establishing standards facilitates player selection. Moreover, it aids in choosing the right players for specific positions in the team based on their defensive skills, contributing to enhancing team cohesion.

Conclusion:

1. Incorporate criteria for evaluating a player's interaction with team members in a defensive context.
2. Identify skills for understanding and effectively applying defensive strategies during matches.
3. Assess a player's ability to analyze opponents' movements and make quick, effective defensive decisions.
4. Evaluate a player's capacity to transition smoothly and effectively between defensive stances.
5. Assess how a player handles pressure and challenging situations during matches.
6. Integrate the evaluation of physical fitness level in relation to the performance of defensive skills.
7. Determine a player's ability to comprehend and execute defensive instructions provided by coaches.
8. Encourage providing constructive feedback to players to foster their continual improvement in defensive skills.

Recommendations

1. Implement challenge and reward-based motivational programs to increase players' drive to improve their defensive skills.
2. Enhance collaborative training to promote group interaction and improve defensive coordination among players.
3. Integrate training sessions focused on understanding defensive strategies and encourage strategic thinking during matches.
4. Provide training activities aimed at developing rapid situation analysis and immediate decision-making skills.
5. Incorporate exercises focusing on improving skills in quick transitions and shifts between defensive positions.
6. Offer intensive training on precise ball control and intervention techniques.
7. Integrate exercises that simulate in-game pressure to develop the ability to handle challenging situations.
8. Design programs to improve physical fitness for sustaining defensive performance throughout matches.
9. Enhance effective engagement with instructions through objective analysis of defensive tasks and improved execution.
10. Encourage the provision of assessments and constructive feedback to help foster continuous development and improvement in defensive skills.

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