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Design and application of a distinctive strength of speed test for the arms for Middle Euphrates club boxers aged (16-18) years

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Abstract

The purpose of this paper is to design a test to measure the strength and speed of the arms for Middle Euphrates club boxers aged (16-18) years, establishing standard grades and levels. The researcher chose the descriptive survey method for its suitability and the nature of the research. The researcher identified the research community, which is the boxers of the clubs of the Middle Euphrates governorates for the youth category, aged (16-18) years, as shown in Table (1), as the number of clubs was (22) clubs, while the number of boxers was (175) boxers. As for the sample, it was (104) boxers, and (7) boxers were members of the exploratory experiment. There were (44) boxers who were excluded for their lack of attendance and commitment, so the percentage reached (74.85%). One of the most important results reached by the researcher is that: It was concluded that the design of the test for the strength and speed of the arms in boxing has scientific foundations and is appropriate for the age and gender of the sample, and a table was prepared for the raw scores and standard scores for the research sample. One of the most important recommendations recommended by the researchers is that: The researcher recommends the necessity of using a test designed to measure the characteristic of strength and speed of the arms in boxing, as it has the standards and levels that have been reached.

Keywords: Middle Euphrates, distinctive strength, boxers aged (16-18) years

Introduction

Sports seemed to be making great strides towards creativity, innovation and development in its various fields, and these steps were not limited to a specific type of sport, but rather extended to include all types of sports, whether individual or team, and the intersection of different sciences had a great role in this development and the concerted efforts on various levels. Trends to go hand in hand in serving the various types of sports. Among these sciences are tests and standards, which are rarely devoid of scientific research without resorting to them, since tests play a prominent role for the sports coach or teacher, as they, and this is what (Farhat, 2007) ^[2] pointed out, help the teacher to recognize To increase awareness, feeling, and excitement, follow up on continuous progress, discover talented people, evaluate the level of progress, and address weak points. As for the coach, it identifies the training situation and the extent of progress, as well as identifying training methods and setting levels for each game (Farhat, 2007, 41-42) ^[2]. The game of boxing depends on the comprehensive basic requirements of any other sports game, such as skill, physical, tactical, psychological and mental performance and physical specifications. It is characterized by action, reaction, and the difference in tension and effort from one moment to another and from one situation to another, and this makes the various physical elements such as strength, motor speed, coordination, agility, flexibility, and others, the main pillar for accomplishing any of the required motor duties, and for the purpose of reaching high athletic levels or achieving achievement in All sports games must integrate and advance all physical, skill, tactical, mental, and other requirements, and the game of boxing is one of the games whose practitioners need many physical requirements because the nature of the performance in it is characterized by different and fast situations that require the boxers to possess the element of strength, speed, and movement with the surprise that he performs. The competitor, as the physical, skill and motor abilities are among the important basic requirements for the boxer, which enables him to overcome the opponent in many situations that occur during the fight, in addition to that, it helps him to continue playing effectively without dropping in level

during the fight rounds (Sonnenyerg. 1989.34)^[9]. Hence the importance of the research, the need to design a test for the strength and speed of the arms in boxing, as it is one of the most important basic requirements for boxers, and in order to provide a test that will be a source for all those interested in the game of boxing, whether they are researchers, coaches, or players.

Research problem

Through the researcher's experience, as he is one of the former champions in the game of boxing and a player in the Iraqi national boxing team, and through reviewing the literature, references, and previous scientific research that was written about this game, he noticed that the number of tests designed, especially the specialized tests in boxing, is very limited. Hence, the researcher intended to design a test of strength distinguished by speed. The arms are specific to boxing and target the important physical qualities required by this game, which are strength and speed together and for all types of punches.

Research objective

Table 1: Shows the number of clubs, boxers, members of the exploratory experiment, and the stability sample

No.	Number of clubs	Community	Sample	Excluded	Exploratory experiment Sample	Stability sample	Percentage
1.	22	175	104	44	7	20	74.85

Data collection methods

- Interview
- Questionnaire.
- Tests and standards.

Personal interview

When embarking on the beginning of a new work, it is necessary to seek the opinions of experts and specialists in the field of boxing, testing and measurement. This was done by conducting a personal interview with a number of them in order to inquire about the test to be designed, and we have effectively benefited from their guidance and sound opinions about that.

Designed test

The stage of designing the test and presenting the questionnaire

After reviewing and reviewing scientific sources in the field of boxing, the researcher developed the proposed test design in its initial form, showing the test in all its dimensions. The test was being conducted on a device designed by the researcher. This device is a rectangular base, 40 cm wide and 30 cm long, with an iron bar attached at each end. Its height is 1.5 meters, with a distance of 18-22 cm between them. It was designed in a way that allows them to move. Each of them was designed in a way that allows him to move in different directions. At the end of the bar, a place was placed in which to attach a rubber rope with a length of (1) meter that contains a handle, so that the boxer stands two meters away from the base. The researcher has put all the test instructions and requirements in terms of the name, the goal to be achieved, and a full description of the method of performance and the mechanism for scoring points, using illustrations that show the technical performance of the skills and after completion. Among the procedures for this, the researcher presented it to a group of experts in the

- Design a test to measure the strength and speed of the arms for Middle Euphrates club boxers aged (16-18) years.
- Establishing standard grades and levels.

Research methodology and field procedures

Research Methodology

The researcher chose the descriptive survey method for its suitability and the nature of the research.

Community and sample research

The researcher identified the research community, which is the boxers of the clubs of the Middle Euphrates governorates for the youth category, aged (16-18) years, as shown in Table (1), as the number of clubs was (22) clubs, while the number of boxers was (175) boxers. As for the sample, it was (104) boxers, and (7) boxers were members of the exploratory experiment. There were (44) boxers who were excluded for their lack of attendance and commitment, so the percentage reached (74.85%).

specialty to express their opinions about the proposed test and indicate the extent of its validity and the modifications to be made to it. Most of the experts agreed on the presented test with some proposed modifications added to it.

Stage of accepting the test in its final form

After collecting the questionnaires for the test, the researcher took into account the proposed amendments regarding the procedures required to be followed in the test. The researcher presented the test in its final form for the second time to those with experience in the specialty, who agreed with the amendments contained therein and it was finally accepted.

Exploratory experience

In order to identify the most important difficulties that the researcher may face through field work and application of the test, the researcher conducted a reconnaissance experiment on (7) boxers from the research community in order to ensure identification of:

- The possibility of applying the test to the research sample, and this is what actually happened, as the test was applied to the sample smoothly and easily.
- The adequacy and safety of the devices and tools used in the application, and the provision and quality of all devices and tools used was controlled
- Adequacy of the supporting team's staff, by selecting competent members who have experience in this field

Final test specifications

Test name: Distinctive strength of speed of the arms test in boxing

- **The aim of the test:** To measure the distinctive strength of the speed of the arms in boxing
- **Necessary tools:** A device designed for testing, a stopwatch, a photographic camera.

- **Performance specifications:** The boxer stands in a ready position with the device behind him. He holds the two handles, one with the left hand and the other with the right hand, at a distance of 2 meters. When the starting whistle is heard, the boxer performs various punches until the time expires.
- **Recording:** The number of correct punches for both arms is counted within a period of 10 seconds.

Scientific transactions for testing

Validity of the test

One of the important criteria that must be met in the test, whether it is codified or the one we want to design and apply, is the validity of the test because it expresses the extent of the test’s ability to measure the characteristic or skill for which it was developed, as well as its ability to distinguish between individuals (Khater, Beik, 1996) [7]. To extract the validity of the test, the researcher used several types of validity, as follows:

Apparent validity

Apparent validity was used by the researcher, which refers to “the extent to which the test measures what it was designed to measure” (Montys, J, 1978, 26) [8]. He presented the test to a group of specialists, numbering eleven experts, and they obtained an agreement rate of (100). The test was taken into account. Taking into account all the amendments approved by the experts.

Self-validity: Self-validity was extracted, which is extracted from the square root of the stability coefficient (Hassanein, 1995, 192) [3].

Discriminant validity

Allawi and Radwan point out that discriminant validity is “the ability of the proposed test to differentiate between people who have a high degree of the trait or trait on the one hand and those who have a low degree of the trait or trait on the other hand” (Allawi and Radwan 2000, 265) [1]. The researcher used this type of honesty on his sample, which

was divided into two groups, each consisting of 27%. They were distributed into two groups. Each group included (28) individuals for the high group and the same number for the low group. The average for the high group was (740). (13) with a standard deviation of (944.0), while the average of the lowest group reached (757.9) with a standard deviation of (0.870). As for the value of (t) for the differences between the two groups, it reached (15.980), and since the value of sig was (0000), which indicates that there are significant differences between the two groups and thus means that the test has the ability to distinguish between the high and low groups.

Stability of the test

Stability is the opposite of honesty, and it means the extent of consistency or mastery of the test for the measured characteristic. It is done in a statistical formula because the logical analysis of any test does not give any scientific evidence of stability (Alawi and Radwan, 2000, 279) [1]. The stability coefficient was extracted by applying the test It was re-applied to a stability sample of (20) individuals between the first and second application. The second application was conducted after (3) days, and the correlation coefficient value of (0.70) or more was adopted. The stability indicates the necessity of achieving the same goals that were previously achieved. By the laboratory it and the stability values will be indicated in Table (2).

Objectivity

The objectivity coefficient was extracted by finding the correlation coefficient between the scores of two arbitrators for performing one sample at the same time and separately, where the correlation coefficient between the first arbitrator and the second arbitrator is the objectivity coefficient of the test in that element. (Khater, Beik, 1996, 25) [7], objectivity is directly linked to the clarity of the instructions, requirements, and recording of the test, and it is achieved when arbitrators give a test to the same individuals to obtain approximately the same results from it (L. Johenson & K. Nelson, 1969, 46) [6] and the table (2) shows that.

Table 2: Shows the scientific transactions

No.	Test name	First application		Second application		Validity		Stability
		Arithmetic mean	Standard deviation	Arithmetic mean	Standard deviation	0.978		
1.	Distinctive strength of speed test for the arms in boxer	20,350	3,020	20,411	3.005	0.978		0.910
		Objectivity						
		First arbitrator				Second arbitrator		0.985
		20,200		3.033		20.012	3.068	

Appropriateness test

For the purpose of ascertaining the suitability of the test to the gender and age of the sample, the researcher used the Semir-Nov test on a sample of individuals consisting of (20) individuals, who are the individuals for the first application of reliability. The value of the test reached (0.652), and considering the level of significance, we find its value reached (0.759) is a value greater than the level adopted in the current study (0.05), which indicates that the test was normally distributed and is therefore considered appropriate for the test sample (Jawda, 2008) [5].

Statistical methods

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

Results and Discussion

Results

Perennation, results for raw scores and their corresponding standard scores

Table 3: Shows the raw and standard degrees and repetitions

No.	Raw degree	Standard degree	Repetitions
1.	21	100	1
2.	20	98	1
3.	19	94	1
4.	18	84	6
5.	17	74	8
6.	16	64	19
7.	15	54	24
8.	14	44	23
9.	13	34	12
10.	12	24	9
11.	11	14	0
12.	10	0	0

Prepare a table showing the levels**Table 4:** Shows the corresponding levels of raw scores and their repetitions

No.	Degree from -to		Level	Repetitions
1.	21	Above	Excellence	1
2.	20	19	Very good	2
3.	18	17	Good	14
4.	16	15	Middle	43
5.	14	13	Acceptable	35
6.	12	Below	Weak	9

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Conclusions and Recommendations**Conclusions**

- It was concluded that the design of the test for the strength and speed of the arms in boxing has scientific foundations and is appropriate for the age and gender of the sample.
- A table was prepared for the raw scores and standard scores for the research sample.

Recommendations

- The researcher recommends the necessity of using a test designed to measure the characteristic of strength and speed of the arms in boxing, as it has the standards and levels that have been reached.
- It is necessary to provide the game of boxing with many tests in various directions, due to the lack of specialized tests in this field

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