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THE IMPACT OF COMPETITIVE SPEED EXERCISES ON JUNIOR BOXERS' EFFECTIVENESS OF SKILL PERFORMANCE AND COUNTERATTACK SPEED

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Abstract:

The competitive environment influences the increase in exercise intensity and hence adds to the growth of training and practice. **The study objective.**to identify the effect of competitive speed exercises on the effectiveness of skill performance and speed of counterattack for junior boxers, as well as to know the rate of development for these variables.**Materials and methods.** The research sample consisted of twelve up-and-coming Al-Najda Sports Club players who participated in the national tournament and were selected with care. They were placed into two groups, control and experimental, with six boxers each in the control and experimental groups. The two groups were assigned identical weights on purpose, and their ages range from 15 to 16 years old. The training age of the sample was between (3) and (4) years, and this sample was chosen because it was appropriate for the nature of the study. After data collection, the statistical analysis program (SPSS) software was utilized to extract the results of the skill performance test. In addition to getting the findings of the (Kinovea) program's assessment of the left arm and right arm counterattack time, after data collection and analysis.

Results it was discovered that the competitive speed exercises were advantageous. A positive effect on the effectiveness of the skill performance and the speed of the experimental group's counterattack. This is demonstrated by the mathematical circles as well as the development rates of the experimental group, which are superior to those of the control group, as the development rate of the left-arm counterattack was (0.06) percent higher in the experimental group than in the control group. The control group (0.01%), the right arm counterattack (0.04%), in comparison to the control group (0.007%), and the experimental's skill performance effectiveness development rate (0.10%). Compared to the control group (0.03%).

Conclusions.the importance and impact of competitive speed workouts in strengthening the efficacy of performance and counterattack for young boxers, which reflects favorably on the performance of boxers in fights, are emphasized by the researchers.

Keywords:Competitive speed, counterattack, skill improvement, Junior Boxers, Performance speed**.**

Introduction:

The scientific advances and accomplishments in sports are the result of collaboration and overlap between numerous sports-specific fields. The most important of these is the science of sports training, as it is the first and most essential responsibility from which all other associated disciplines derive. In addition, training is the comprehensive process of enhancing an athlete's performance through planned preparation and competition regimens. The coach plays a crucial part in the training process, which is also a structured procedure characterized by constant change. This role entails locating suitable employment through which the player's skills can be merged (Abdelazeem, 2022). And the objective of this science is to improve the performance of athletes to the best degree feasible. More to add in all sports and according to their requirements, including boxing, as boxing involves several abilities and skills owing to the constantly changing motions and situations (Smith MS, Dyson RJ, Hale T, & Janaway L, 2000), (WJ & Litwiniuk A, 2006) One of the most important of these abilities is speed, as this sport requires a high level of speed in terms of response speed, reaction speed, speed of punches, and speed of motor behavior in the ring during training and fights, which necessitates the application of special boxing skills suited to speed,And they (ČEPULĖNAS, BRUŽAS, MOCKUS, & SUBAČIUS, 2011)found that for offensive and defensive skill positions, as well as counter-attack, speed is the determining element for good performance. Therefore, coaches focus on speed training to ensure that athletes are properly prepared for competition.

Without a doubt, the methods of sports training have progressed to accomplish a startling breakthrough in many sports areas with their individual and team competitions. Utilizing the principle of integration between science and knowledge, which aims to enable the athlete to achieve the highest levels of sports performance in competitive situations in his area of specialization and within the limits of his area of specialization and within the limits of what his physical, skill, psychological, mental, and social abilities permitThe development in the sport of boxing is a result of the change in methods, and concepts of training of coaches, as well as the change in concepts of punching by boxers in their use of all different technical skills, such as offensive skills to score the most points or defensive skills to avoid the opponent's punches.

Competition is typically characterized as a circumstance in which an individual competes with a tool or time, or between one individual and another, or multiple competitors to achieve a specified objective. Therefore, competition is necessary to encourage individuals to do better (Roure, Fargier, Girod , Cécé, & Pasco, 2022).

This research aims to develop exercises (competition speed) and determine their effect on the efficacy of skill performance and counterattack speed.

In addition, the researcher is a former player and coach. The follow-up to the majority of the clubs' workouts revealed a lack of interest in the various speed exercises, particularly the advised speed exercises. In addition to learning the extent to which the proposed workouts affect the quickness of boxers' performance (counter-attack) and the efficacy of their skill performance.

by strength, speed, and the changing kinetic ability observable in the motions of boxers as they carry out their tactical duties by throwing punches, defending against them, and launching counterattacks. And that physical preparation, skill, and strategy are the most essential variables in enhancing boxers' technical and tactical abilities((khodr, 2020).

Several researchers examined competitive exercises.(Al-Saidi, 2009) his study aimed to assess the effect of competitive activities on the development of remarkable physical abilities and offensive skills in young blind weapon players. Using the experimental method on a sample of two groups, a control and experimental consisting of (16), for each group (8) players, the results indicated that competitive exercises had a positive effect on the development of certain special physical abilities and offensive skills of young players in the blind weapon sample for the experimental research.

Another study by (Souad Sabti Abboud ,2016) was to determine the influence of competitive exercises on the development of the counter-attack of fencing players, utilizing the experimental technique with two groups, control and experimental, consisting of sixteen players in each group. The results demonstrated a good effect of competitive exercises on the time attack of female fencing players, as measured by eight players in each group. This study aims to prepare exercises (competition speed) and determine the effect of exercises on counterattack speed and skill performance effectiveness. Through the researcher's review of previous boxing studies, he was unable to locate a study that focused on this important training aspect. As a result, the researcher decided to study this topic, which is an important attempt that may contribute to boxers achieving remarkable improvements in their level of skillful performance, making this study essential for the trainer.

Consequently, for the boxer, because of its effect on resolving offensive and defensive postures and, consequently, its effect on the boxer's performance throughout the fight.

Materials and methods:

Study participants:

Due to the nature of the research and its difficulty, the researcher chose the experimental approach, designing two groups (control and experimental) and administering pre-and post-tests. Research specimen: The researcher selected twelve juvenile boxers from the Najda Boxing Club whose ages range from fifteen to sixteen. The participants were informed of the study's objective and methodology. Participants were required to consent to participation. In the pre-tests of the study variables, sample equivalence was determined for the experimental and control groups by extracting the T value as given in Table (1).

Table (1)

It shows the means, calculated and true t-value, and sample equivalency.

THE TEST	measuring unit	Control		Experimental		T Value	Sig	Results
		mean	SD	mean	SD			
Left counterattack time	Milli seconds	0.222	0.02	0.225	0.029	0.22	0.737	Random
Right counterattack time	Milli seconds	0.215	0.029	0.219	0.035	0.23	0.589	Random
Effectiveness of skill performance	Degree	0.42	0.03	0.43	0.04	0.85	0.461	Random

The above table displays the random differences between the two research groups (experimental and control) in the research variables that are below the significance level (0.05), as all significance levels appeared to be greater than (0.05), indicating the equality of the two research groups in the tribal research tests, i.e., they begin at the same point.

Research Instruments

To measure the effectiveness of skill performance, the following equation was used to estimate the effectiveness of skill performance during a boxing match (Al-Mashrafawi, 2011)،(Ibrahim, Badawy, & Mohamed, 2022):

$$\text{Effectiveness of skill performance} = \frac{\dfrac{\text{Correct punches}}{\text{Total skills performed by the opponent}} + \dfrac{\text{Failed skill rate}}{\text{Total technical skills}}}{\text{Number of rounds}}$$

As for the counter-attack speed test, it was used:

Counterattack Test (Gouda, 2015):

Objective: Calculating the time of the counterattack with the punch (left straight - right straight) after leaning the torso back

Tools: Boxing gloves, 120-degree camera, laptop, Kenova software.

Method of performance:The coach stands in front of the player being tested, counts three seconds, and then throws a straight punch at the player's head. The player must escape this punch by tilting his trunk to one side and then firing left or right straight punch.

Recording method:The Kenova algorithm calculates the boxer's performance time if he successfully defends against a punch and then returns it with a successful blow.

Training design: The exercises are developed according to the method of repetitive training, with a maximum intensity of (90 - 100)% and relatively extensive rest periods, or to return the heart rate to (120) beats per minute.

The pre-test**:** The pre-test was performed in the boxing gym of the Al-Najda Sports Club Forum at three o'clock in the afternoon with the assistance of the assistant work team.

Implementation of the exercises:The exercises were performed for (12) weeks at a rate of (36) training units each week, or three units per week. For juniors, the predicted exercise time in the main section is (40-30) minutes.

Statistical analysis

After data collection,Quantitative data were analyzedusing IBM SPSS version 26.0 statistical software, to find descriptive statistics (mean±standard deviation) and data normality.Paired-samples t-tests were used to to extract the results of theEffectiveness of skill performance testand counterattack tests,before and after in the experimental and control groups (Xu, Yao, Kang, & Duan, 2020). The level of significance used is (0.05).

The rate of development was also used to find out the duration of development for the control and experimental groups.

Research results:

Table (2)

The first group's (T) value, pre- and post-test differences, and significance (control)

The Test	Pretest		Post-test		T Value	Sig	Result
	MEAN	SD	MEAN	SD			
Left counterattack time	0.22	0.026	0.219	0.026	3.503	0.017	Significant
Right counterattack time	0.21	0.029	0.213	0.028	3.503	0.01	Significant
Effectiveness of skill performance	0.4	0.024	0.418	0.02	3.162	0.02	Significant

Below are the degree of freedom (5) and the significance level (0.05).

Table (3)

(T) value, pre-and post-test changes, and significance for the second group (experimental)

The Test	Pre-test		Post-test		T Value	Sig	Result
	MEAN	SD	MEAN	SD			
Left counterattack time	0.22	0.029	0.21	0.021	4.056	0.010	Significant
Right counterattack time	0.21	0.035	0.205	00.024	2.859	0.035	Significant
Effectiveness of skill performance	0.43	0.041	0.47	0.042	10.277	0.00	Significant

Below are the degree of freedom (5) and the significance level (0.05).

Table (4)

It shows the results of the development of the two groups (control and experimental) in the tests of the research variables

The Test	Control group		Evolution rate	Experimental group		Evolution rate
	Pre (M)	Post (M)		Pre (M)	Post (M)	
Left counterattack time	0.222	0.219	0.01 %	0.225	0.211	0.06 %
Right counterattack time	0.215	0.213	0.007 %	0.219	0.209	0.046 %
Effectiveness of skill performance	0.405	0.418	0.03 %	0.433	0.476	0.10%

Discussion:

The findings of the test of differences between the pre-and post-tests for the first group are presented in Table (2). (the control group). As the researcher used (T) tests for the correlated samples, the study found that the values of morality (Sig) for the tests (time of the counter-attack with the left arm and time of the counter-attack with the right arm, the effectiveness of skill performance) were less than the significance level (0.05) and below the degree of freedom (5). To prove the hypothesis of the first study, which indicates that there are significant variations between the pre-and post-tests in the research variables of the first group (control), using the

trainer's training curriculum and referring back to Table 1, we will conduct the following experiment: (2). The study reveals a discrepancy between the post-tests arithmetic mean values and the tribe tests' arithmetic mean values.

The arithmetic mean of the post-test is bigger than the pre-test because, except for the skill performance test, the post-test scores rely on the unit of time. The arithmetic mean of the pre-test, which indicates that the findings were favorable to the post-tests for all tests, suggests that there is an improvement in the results in favor of the post-tests, and the researcher links the improvement in the control group's results to the test. In addition, specialized workouts are the foundation of the growth process for any physical, kinetic, or skill aptitude on the sports field and in a variety of games (Nasser., 2021). As for the experimental group that utilized (competitive) exercises, the results of the differences test between the pre-and post-test for the second (experimental) group that trains competitive speed exercises are shown in Table (3). We find that the significance values (Sig) were all below the significance level of (0.05), and below the degree of freedom (5).

By following these results, the arithmetic mean value of the post-test was greater than the pre-test, indicating that all post-tests yielded favorable results. All of the tests indicated that the (competitive) exercises used had a positive effect on the abilities studied, and this was confirmed by(Thompson & Vinueza, 1991), which stated that "the boxing exercises, whether with or without boxing equipment and tools, which are similar to the situations and conditions of the fights, lead to the development of boxers' abilities." Hence, the researcher believes that the competitive workouts he selected were similar to what occurs during a fight, allowing the player to perform skills rapidly and realistically.

This enables him to stay up with his opponent in terms of movements inside the ring and the performance of the defense, attack, and counterattack on time that is acceptable for the current state of the fight. And of course, the improvement of the technical components frequently leads to an increase in performance speed through the performance of exercises in which the intensity of the fight is equal to Tilt during training and competition, with the proper number of repetitions. The competition workouts are designed to attain specific training goals, such as precision, speed, and other training factors (Al-Fatih, 2014).

Similarly, the researcher's activities train boxers in exercises that serve performance in terms of developing the speed of thinking, acting, reacting, and responding in the many combat situations included in the competitive speed exercises that mimic the various fighting situations. This contributes to linking skillful performance with smart moves and raising the level of boxers' abilities, as linking the exercises with each other according to the conditions of performance and the correct training load was one of the fundamental and crucial factors in achieving the development of the second group (experimental) in the studied abilities. In addition to the fact that boxing is one of the sports that depend on the speed of all types and its associated skills, boxing is also one of the sports that need all connected qualities. Such as compatibility, agility, reaction time, and movement(Spain, Boxing Fitness Training Manual, 2008).

By integrating and coordinating the activities between the joint motor units in kinematice performance to a great degree, the motor speed can be enhanced using planned and coordinated training. Performance is enhanced by the use of quick movements and carrying out the proper training. Fast-paced training strives to increase the degree of compatibility and precision of movement, and the most effective method for achieving these goals is through rapid motor frequency in skill-like activities (Basir., 1999). In this regard,(Risan Khuraibet ,2016)indicate that a well-planned training load contributes to the success of the adaptation process and a high level of athletic performance, and on this basis, the researchers attribute the development of the results of the experimental research group in all tests to the exercises he performed on the research sample using a training load that was well-planned.

Table (4) compares the rate of development of the variables under study between the control and experimental groups. It demonstrates the development of the experimental research sample in the left-arm counterattack time test, which was (-0.06%) compared to the control group, which was (-0.01%). As for the right-arm counterattack, the experimental group performed significantly less than the control group, which performed (-0.007%). The effectiveness of the skill performance was determined by comparing the experimental group's development percentage (-0.10%) to the control group's development percentage (-0.03%). As the competitive speed exercises have a greater effect on the development of research variables than the control group's normal training. Consequently, these outcomes are consistent with the study of (Ives, Neese, Downs, Root, & Finnerty, 2020) "The competitive environment increased performance speed, and the results of the study indicated that the competitive environment was superior to the noncompetitive environment in terms of performance enhancement. The competitive group created a more stimulating environment, which contributed to a greater physical and mental effort, as the added competitive element of the exercises simulates the fights and increases the exercise effor(RIC, et al., 2016).

The researcher also feels that the offered exercises, as well as their components and factors, significantly contributed to the boxers achieving an optimum counterattack performance model. Boxers acquire semi-automated experiences and automatic motor habits during punching and its diverse situations as a result of gaining the necessary motor pathways through training(Ahmed Saeed Khader, 2015). So that the boxer can respond more quickly to the opponent's movements during competition and has a greater chance of succeeding in various punching techniques. From his performances such as counter punches and punching initiations, a fighter's ability to deliver a punch or combination of punches determines his success (Hukkanen & Häkkinen, 2017). And this is congruent with what he argues (Amanda, CAY, & Paul, 2012): cyclists train more fiercely while fighting against a direct competition or a virtual competitor as opposed to solo practice."

The results of this study agree with those of (Ahmed Nasr, 2002; Al-Kumaiti., 2000; Fattah., 2002): training under conditions of training loads that are similar to playing situations led to an increase in the effectiveness of the skill performance of boxers in a positive way, as well as with his study (Shehab., 2015): "The rise in the physical level of the athlete is dependent on competition exercises and special exercises related to the quality of specialization."

Conclusion: Exercises designed specifically for improving a particular physical, kinematic, or skill capacity are an essential component of the training regimen for athletes preparing for competition in a variety of sports and activities. Therefore, there was an increase in development in both groups; however, the group that trained in competitive speed exercises showed a bigger increase in the research variables that were evaluated. (Skillful performance effectiveness test, and the two counter-attack time tests), the effect and development were clear on the effectiveness of the skill performance, as well as the development clear at the time of the counter-attack, so the researcher recommends through the above the necessity of training competitive speed exercises; Because it has a clear and significant impact on the performance of boxers.

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