

## SPECIAL EXERCISES IN THE HIERARCHICAL OPPOSING TRAINING METHOD AND ITS EFFECT ON DEVELOPING PHYSICAL ABILITIES AND ACCURACY OF SOCCER SCORING FOR ADVANCED PLAYERS

**Maytham habeeb Sabhan\*, Wameedh Shamil Kamil, Ali Saad Abdul Hameed**

**Physical education and sport sciences, Baghdad University, Iraq**

### Abstract

This study deals with the development in the field of sports training science through the use of means and methods that contribute to the development of players in terms of physical and skill for advanced players. As for the research problem, the researcher mentioned that the explosive force component needs to be developed in terms of exercises. It was not given in a specialized form in soccer skills to most players. Furthermore, this research dealt with some issues related to the topic of his research, as the concept of hierarchical opposing training and explosive power was addressed. As well as the researcher used the experimental method on a sample of Al-Naft Sports Club players, as their number reached (6) players represented by one experimental group. Finally, the results were presented and discussed by using a number of statistical methods and some conclusions related to the research were drawn. The researcher recommended some recommendations related to the development of football training.

### Introduction

Football is one of the team games whose development requires many aspects, physical, skill and planning, and raising the performance efficiency of players to face the pressure of training loads. Especially since it is one of the fast-performing and tiring games due to the nature of its constantly moving and continuous performance. There are exceptions for the legal stops that occur according to the requirements of the play, which requires the player to have a very high physical competence and ability that makes him maintain his physical performance and skill capacity with high accuracy and efficiency. Thus, it has been found that among the games that it is characterized by a large aspect of changing situations on the field between attack and defense situations and vice versa, and at a high speed. Therefore, the preparation for it must be integrated in terms of physical and skill in order for the player to be able to control his skills, whether defensive or offensive, and act in them properly. The soccer scoring skill is one of the important and difficult skills for the players because it is the decisive part in achieving the final result for the team and the fact that it requires some physical abilities to do this skill. Through the researcher's experience as a football player and coaches, and the continuous follow-up of the players' performance in training and matches.

It has been found that there are methods that can have an effective impact on developing some physical abilities of football players, which in turn reflects on the accuracy of scoring the match, which is reflected positively on the outcome of the match, so the researcher began to study. This problem and the development of appropriate solutions by developing some physical abilities such as explosive power and force characterized by speed in a hierarchical training method. thus, reflected on the development of players' performance for the skill of football scoring for the applicants and what has the effect of making clear changes reflected in the results of matches and the main aim of this study is to Prepare exercises using the hierarchical training method. As well as to

Manuscrito recibido: 04/11/2021

Manuscrito aceptado: 15/12/2021

\*Corresponding Author: Maytham habeeb Sabhan, Physical education and sport sciences, Baghdad University, Iraq

Correo-e: Maytham@cope.uobaghdad.edu.iq

Identify the effect of the opposing hierarchical training method. Development in some physical abilities and accuracy of soccer scoring for advanced players.

### Theoretical frame work

The hierarchical training system is one of the most important training systems common in developing muscle strength, as it depends on gradually increasing the intensity of load with a decrease in the size of the load and it can be ascending or descending. Hierarchical training was defined as a special form of training aimed at Raising the level of muscle strength through the process of succession by increasing the load and decreasing it in one training (Al-Jadaan et al., 2020). The hierarchical method is known as the most common method for developing strength and ability and the most important characteristic of this method is the gradual progression from low weights to high weights with few repetitions after that the player may return To lower weights and with higher repetitions (Al-Jadaan et al., 2018). It is a system of work with multiple training methods through which the resistance is lifted progressively (Boddington et al., 2020).

The training load increases continuously, and the number of repetitions in one group increases, the more weights (resistance) with the harmony of the rest with the training state. Progressive is done by (hierarchical training) as it starts with, for example, loading (80)% and iterations of (1-5) (Dunsky et al., 2017)

### Explosive Force

It is one of the main components of physical fitness, and upon it the rest of the other elements are based, without which it is impossible to perform any movement, no matter how simple. Nor is any activity devoid of dependence on This important element with the difference in the degree of accreditation commensurate with the requirements of effectiveness. It is the main element for the development of motor performance as well as its importance in the formation of physical fitness through its association with other elements such as speed and elongation (Khdhim et al., 2017). The explosive force was defined as "the ability of the nervous-muscular system to try to overcome resistance, which requires a high degree of speed of muscle contractions. Explosive Force is also known as the highest force that an athlete can obtain in the least time and once ( Mohammed et al., 2017).

There is another definition of explosive power, "the maximum force with the least time, that is, making a movement in which the maximum force is used in a short moment to produce movement. The importance of explosive force lies in its enjoyment of a large aspect, the synchronization of both force and speed in a clear and specific manner, which is reflected in achieving the best results in many sports activities. Especially in the game of football of a changing nature in terms of kinetic performance. Especially the defensive follow-up skill for what you need from the muscular strength of the two men And the hands in terms of jumping and following the ball defensively in addition to speed in the correct timing of pulling the ball defensively from the opponent (Michaud-Paquette et al., 2017)

### Fast power

The force characterized by velocity means that the ability of the muscular nervous system to produce rapid force, which requires a degree of compatibility in the merging of force and speed in one component. was confirmed by many researchers, as it represents that the ability of the nervous and muscular systems to overcome external resistances at the highest rate of muscle contraction possible (Scibek et al., 2020). Fast power is also known as "the ability to perform movements against resistances at the pre-maximum level and at a high degree of speed. The characteristic strength of speed is the most obvious physical ability of the handball players because of what this game requires in terms of defensive and offensive movements. These characteristics are quick to be accompanied by a high and fast frequency with a kinetic response in capturing the ball and running with it and for the length of the match. As well as that the handball players need to be prepared High physical in which the focus is on speed and strength because it cannot be reached The strength is characterized by speed unless there is a high muscle building with a great speed of movement accompanied by good mastery of skill and plan. Many researches reported that the handball player needs various types of strength, including fast strength, in order to be able to keep up with the match in which the performance is not at a single pace, especially for an element. Strength as we need it most during the match (Tamimi et al., 2019). The distinctive strength of speed is trained in special training methods, as training for this ability must be based on the players possessing maximum strength. Also they mentioned that frequency of muscle contraction and relaxation during performing of exercises for the development of these characteristics.

Another group of researchers believes that the characteristic of strength characteristic of speed is trained in all methods of sports training except the method of continuous training where the muscles of the body work in the absence of oxygen due to the high intensity of the load. This method also leads to the development of the ability of the muscles to adapt to the physical effort exerted, which leads to a delayed feeling of fatigue .

Xx highlighted that the development of the characteristic force of speed helps to develop fast motor skills against resistance by improving the work of nerves in muscles, taking into account the use of pleometric exercises with age groups because of its very severe impact on the joints . Finally, we must differentiate between the explosive force and the force characteristic of velocity, as we find that the explosive force is a maximum force at the maximum possible speed and there must be moments in time at which the player stops to collect his strength. while we find the force characterized by velocity is a maximum force at a maximum speed, but it is characterized by repetition without periods Waiting to accumulate strength, and the two previous elements play a major role in handball. It is considered one of the critical elements in many defensive moves, on which the efficiency of performance and achievement depends.

**Research Methodology**

Choosing the appropriate approach is one of the foundations for the success of scientific and practical research, and because the experimental approach is "an approved and controlled change of the specific conditions for the reality or phenomenon that is the subject of study and observation, which results from this change of effects on this reality or phenomenon. The researcher used the experimental method in a way for one group of pre and posttest for its suitability with the nature of the problem that the researcher wants to address.

**Research sample**

The researcher chose the research sample for intentional softness from the Naft club's (10) players. The reason for the deliberate selection of the research sample was based on the availability of the material and human capabilities of the sample to achieve the purposes of the study. Furthermore the ease of contact with them, and a place for training that allows conducting research tests. As well as the availability of the test location and homogeneity was made for them in the anthropometric measurements (Table 1).

**Tools and devices:**

The researcher used the following research tools and devices:

- 1- Personal interviews.
- 2- Arab and foreign sources.
- 3- Observation and analysis.
- 4- A tape measure, rope, bork material.
- 5- Foot balls.
- 6- Football goal (with legal dimensions).
- 7- A football field for testing and applying the main experiment.
- 8- Registration form.
- 9- Terraces.
- 10- Footballs.
- 11- Paint dyes.
- 12- Rubber tape.
- 12- Stop Hopping.
- 13- Two (2) electronic clocks.
- 14- Number (3) lamps.

**Field research procedures**

**Physical exam**

Vertical jump from stability

**Table 1:** shows the homogeneity of the two research groups in anthropometric measurements.

Variables	N.	Medium	Mediator	Deviation	Coefficient of Skewness
length	10	181	179,5	4,308	640,.
Weight	10	71,16	71	2,99	163,.
Age	10	17	17	864,.	000,.

The objective of the test: to measure the explosive force of the leg muscles.

Tools: a smooth wall graduated to (400) cm, gypsum powder (Maneria), a cloth to wipe off the marks.

Performance specifications:

The experimenter dips the fingers of the hands in gypsum powder (Maneria), then stands facing the wall and raises the arm across its entire extension to place a mark with the fingers on the wall without lifting the heels off the ground, and the number that the mark is placed in front of is recorded, then the experimenter jumps vertically in place to reach The highest point possible to make a finger mark on the wall. Each tester has three tries, the best of which are scored.

Registration: The distance between the first mark and the second mark is the measure of the explosive power of the two men by the tester.

**Test to bend and extend the knees in 20 seconds (from standing position) (1)**

The purpose of the test: to measure the force characteristic of velocity of two men

Tools: - electronic stopwatch - whistle.

Description of the performance The tester stands with the legs open with a standard opening (chest width). When the signal is heard, the tester bends and extends the legs completely as quickly as possible and within a time of (20) seconds.

- No downtime allowed.
- It is not allowed to support any member of the body on the ground or anything else.

The laboratory is allowed to perform two attempts after having been given a suitable interstitial rest

Testing the accuracy of scoring (1)

Test objective: - Measure the accuracy of scoring towards the goal.

Tools used: -

- 10 foot balls.
- A bar to set the scoring area for the test.
- Soccer goal international measurements.
- football stadium .

Method of performance: -

(6) balls are placed in different places close to the front line of the penalty area, and as shown in the figure below, where the player scores in the areas indicated in the test, according to their importance and difficulty, and sequentially one after the other, provided that the test is done from the running position.

Registration method: -

- The number of injuries that enter or affect the sides of the six goals set from both sides and the center of the goal are calculated, so that the scores of each of the six balls are calculated as follows:

(4) Scores for scoring in Domain No. (4)

**Application of the training curriculum:**

Special exercises: The researcher prepared special exercises and applied them to the research sample, and the exercise continued for (8) weeks. The exercises were applied in the main section of the training unit and the exercise vocabulary was as follows:

- The duration of the exercise is (8) weeks.
- A number of the total training units: (24) units.
- The number of training units per week: (3) units.
- Intensity of use: 75% - 90%.

Weekly training days: (Sunday, Tuesday, Thursday)

**Results and Discussion**

Presenting the arithmetic mean, tribal and dimensional standard deviations, and the calculated and tabular (T) value for physical and skill tests (explosive strength of the legs, bending and extension of the knees, and accuracy of scoring) (Table 2).

**Table 2:** Details of tests results.

Test	Experimental test		Theoretical test		Sig	Function
	h	y	h	y		
Explosion force of feet	39.7000	1.05935	45.1000	.73786	0.00	Not real
Recognized force of knees	14.7000	.94868	20.3000	.64885	0.00	Not real
Scoring accuracy	4.5000	.52705	9.6000	.96609	0.00	Not real

By observing Table No. (2), it was found that the significant differences between the pre and post tests were in favor of the post tests. This is a natural result of the correct application of the exercises used according to a correct scientific method. Thus, this indicated improvement in the tests as the results showed that the individual sample showed superiority in terms of the arithmetic mean. The standard deviation of the performance during the tests, and the researcher attributes this improvement to the effectiveness of the special exercises have been used to rely on sound and standardized scientific foundations on the one hand as for strengthening the leg muscles. The exercises carried out by the sample have an effective effect in developing the explosive force of these muscles To rapidly contract and control the motor path during the acceleration phase and to maintain the structure of constant special technical performance, which achieved the issue of controlling the motor path. Thus, it was reflected in the skillful performance, meaning that strengthening the muscles of the legs leads to the development of the strength of the thigh and leg muscles, and then gives agility and technical performance to the player. This is consistent with whatXX stated that there is a great relationship between the two elements of strength and speed where it is not possible a muscle or muscle group may contract quickly unless it has sufficient strength for such performance.

And that the use of rated resistors within the performance requirements helped to increase the improvement of the strength of the performance, which generates good results in the achievement. Ballistic helped to control the movement paths, how to respond and the speed of reaction with the ball bouncing from the foot, in addition to that, the lightweight weights had an effective effect in developing the muscles of the legs and arms, and thus reflected on the explosive force because of its effective effect in the process of following the ball rebound from the foot in defense.

It is confirmed that the defensive player's success in receiving the ball rebound from the foot depends on his ability and ability to jump). and many authors indicate that the development of the athlete's technical condition is by gradually increasing the load in linking the requirements for movement compatibility, changing the timing of movement and linking Various kinematic elements.

### Conclusion

Hierarchical training method was effective in developing the explosive force and the force characterized by speed for the two men. The development of the explosive power of the two men had a clear effect, which was reflected in the development of the performance of the accuracy of football scoring skills of the members of the research sample. The need to use the hierarchical training method. In order to develop other skills, especially defensive ones. Expanding other similar studies to identify the effect of the hierarchical training method on other skill variables.

### References

- Al-Jadaan, D. A. N., Zaalán, M. S., & Ali, I. A. (2020). Analytical Study to Indicate the Comparison in Biomechanical Variables of Handball Scoring. *International Journal of Psychosocial Rehabilitation*, 24(02).
- Ashour, I. A. Z., & Nashmi, M. H. (2018). The Effect of using Various Exercises using Rubber Resistances Accompanying some Visual Means and Vision Training in Developing Scoring Accuracy in Football.
- Boddington, B. J., Cripps, A. J., Scanlan, A. T., & Spiteri, T. (2020). Operation of the Basketball Jump Shooting Accuracy Test: Intra-and inter-rater reliability of scoring procedures and floor and ceiling effects for test performance. *International Journal of Sports Science & Coaching*, 15(2), 220-226.
- Dunsky, A., Barzilay, I., & Fox, O. (2017). Effect of a specialized injury prevention program on static balance, dynamic balance and kicking accuracy of young soccer players. *World Journal of Orthopedics*, 8(4), 317.
- Khdhim, R. A., & Abood, H. M. (2017). Psychological and social compatibility and its relation to the accuracy of the performance of the skills of handling and scoring in football among students of the College of Physical Education and Sports Sciences. *Sciences Journal Of Physical Education*, 10(2), 253-269.
- Mohammed, H. A. R., Fattah, N. A., & Jalal, H. (2017). The Effect of different firmly physical effort in a number of functional and biochemical variables and accuracy of scoring among football players. *Sciences Journal Of Physical Education*, 10(4), 69-93.
- Michaud-Paquette, Y., Pearsall, D. J., & Turcotte, R. A. (2009). Predictors of scoring accuracy: ice hockey wrist shot mechanics. *Sports Engineering*, 11(2), 75-84.
- Padulo, J., Nikolaidis, P. T., Cular, D., Dello Iacono, A., Vando, S., Galasso, M., ... & Ardigò, L. P. (2018). The effect of heart rate on jump-shot accuracy of adolescent basketball players. *Frontiers in Physiology*, 9, 1065.
- Scibek, E. P., Moran, M. F., & Edmond, S. L. (2020). Accuracy of Functional Movement Screen Deep Squat Scoring and the Influence of Optimized Scoring Criteria: A 3-Dimensional Kinematic Approach. *Journal of Sport Rehabilitation*, 1(aop), 1-7.
- Tamimi, M. A. J. A. Z., Hussein, I. N., & Breesamshair, F. (2019). Anxiety and its Relationship of Scoring Skill on Football Young Players. *Indian Journal of Public Health Research & Development*, 10(11), 2074-2077.