

THE EFFECT OF HIGH-INTENSITY EXERCISES ON THE SPEED ABILITY AND ACHIEVEMENT OF 400-METER RUNNERS WITH DISABILITIES (CATEGORIES 36, 37, 38 TCP)

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Abstract

Today, the countries of the world are in a race to work on developing various sports games and events, especially in supporting people with disabilities in various world championships and Special Olympics by improving technical performance and the digital level, which places the responsibility on coaches and researchers to choose the correct training methods that are compatible with the requirements of the event. Specialization, and in order to achieve this achievement, this requires that there be organized and thoughtful planning for the applications of specialized exercises for the disabled in a way that is commensurate with their abilities and capabilities, apart from the training of healthy people, and in particular the training of relevant physical abilities and appropriate training methods for the athletes of all categories, especially in the category of the disabled, because of their importance. It is significant in achieving high achievement. (Easa et al., 2022) The use of high-intensity training requires trainers working in the field of the disabled to codify the training volumes in a scientific and thoughtful manner and apply training loads appropriate to the level of their players more than those of healthy people, as it has a direct impact on the characteristics of the disabled. During training with high intensity, in order to ensure the development of the level and avoid the evil of injury. (Mondher, H. A., &Khalaf, 2023)) Training is a science that has modern and renewed rules, components, methods, and principles on which coaches rely. It must be appropriate to the conditions of the training process and the capabilities and capabilities of the players. People with disabilities in particular, (Ahmed FadhilFarhan Mohammed JawadKadhim, 2016) as researchers relied on high-intensity exercises in the pre-competition stage to develop speed ability, which appears in maximum speed and speed endurance for the race (short and long) for the 400 m running event. Which depends directly on your speed endurance to increase anaerobic capacity, as its ratio with aerobic capacity is in the range of 83% for anaerobic capacity and 17% for aerobic capacity.” (Devwatts, 1998). The importance of this research appears in highlighting the importance of special training for running (400) meters and developing the speed ability in both maximum speed and speed endurance for the race (short and long), which requires choosing the best methods and methods

for its development as it is one of the most important special demands for short-distance runners, as mentioned (Ahammad F &hayderalshaamm), especially the (400) meter race for the disabled, which is mainly linked to improving the level of achievement, and this study provides the preparation of special exercises suggested using methods for developing special speed and speed endurance, which may have an impact on developing speed ability, because of this great importance. In raising the level of achievement. (Mousa, A. M., &Kadhim, 2023)

Keywords: High Intensity Training, Special Speed, Disabled Persons TCP Class (38-37-36)

Introduction

Research problem

Through the work of researchers in the field of sports training and athletics and their work in many sports and Olympic institutions, and their experience with the problem of players in foreign tournaments, in which during one day there is more than one race that requires maximum intensity and over two or more days of continuous effort, which is reflected in its impact on digital achievement. For the completion time of running a distance of (400) meters for disabled people in the TCP categories (38-37-36). Therefore, the researchers wanted to conduct this research with high-intensity training to adapt athletes of the 400-meter running event for the TCP categories (38-37-36) with disabilities to high-intensity training volumes in order to develop their achievements in this event, through selecting, preparing, and applying special exercises to effectively affect their performance in this event. This specialized event, which reflects the occurrence of development and the achievement of the goal sought by the researchers. Speed ability training in its various forms has been adopted because of its great importance in developing the achievement of this event. Therefore, the researchers decided to present an academic study for the purpose of developing this category of disabled people in order to achieve Advanced achievements serving disabled athletics.

The work in our research lies in finding real solutions to some questions

1. Do special exercises with high intensity have a positive effect in developing the speed ability of people with disabilities, and the extent of their impact on the effective completion of the 400-meter run for people with disabilities for these categories TCP (38-37-36)
2. What is the positive effect of special exercises on the adaptation of disabled people during races on the same day or the next day, as well as during close competitions?
3. research aims
4. Preparing special, high-intensity exercises for disabled people in the TCP categories (38-37-36) who run a distance of (400) meters.
5. Identifying the effect of special, high-intensity exercises in developing the speed and achievement ability of disabled runners in the TCP (37-36-38) categories, who ran (400) metres.

Research hypotheses

1. There are statistically significant differences between the results of the pre- and post-tests of speed ability for disabled people from the TCP categories (38-37-36)

2. There are statistically significant differences between the results of the pre- and posttest results of running a distance of (400) meters for disabled people from the TCP categories (38-37-36)

Research areas

Human field - a sample of disabled TCP (38-37-36) elite athletes qualified for the Asian Championship in the 400-meter running event, for the year (2023)

Temporal scope - within the period extending from (8/2/2023) to (10/5/2023)

Spatial field - the stadium of the College of Physical Education and Sports Sciences, the arena and the external field of the University of Baghdad, and the arena and field stadium in the Ministry of Youth and Sports.

Search terms

36TCP category: This is the category that suffers from a disorder in movement coordination, as these athletes are able to run without assistive devices, but there are difficulties in controlling the upper extremities.

37TCP category: Athletes in this category are able to run without aids, but there are spasms in the lower extremities, which often leads to lameness.

Class 38 TCP: This class is intended for people with monoplegia and mild tremors who can run and jump freely with a slight limp. These people have a mild functional disability due to lack of coordination in the level of the legs or hands.

(Al-Jiyali, 2002, p. 21)

Research Methodology Based on what was stated in the current research problem, the researchers adopted the experimental method with a tightly controlled experimental group with pre- and post-tests, in order to identify the features of the research and study its hypotheses and independent variables.

The research community and its sample

The research population was selected using a comprehensive enumeration method and an intentional method that represented the research sample by 100% of their community of origin, represented by the players of the national team for the disabled from the TCP categories (38-37-36) who ran a distance of (400) meters for the sports season (2023), who numbered (5) Players, as all of them were accredited to the experimental research group, and the researchers sought to statistically verify their homogeneity in some anthropometric variables that may constitute extremes in the results of dependent tests for the purpose of preserving the internal integrity of the experimental design from the effect of some extraneous variables.

Means of collecting information, devices and tools

Arab and foreign sources, the International Information Network (the Internet), direct individual personal interviews with specialists, observation and experimentation, tests and measurements, various paper forms for collecting and transcribing data, a running track for a distance of (400) legal metres, an electronic stopwatch (5), and a video camera. For documentation and follow-up, type (SAMSUNG) with a speed of (24) images per second, Korean-made (1), assistant work team, metric tape measure, colored plastic cones to determine distances at different heights (8)

Field research procedures

Research variables

Through the researchers' experience in this field and their interaction with this sample, along with discussion with some trainers, the following study variables were agreed upon:

Independent variable: High-intensity specific exercise.

Dependent variables

- Maximum transition speed.
- Short speed tolerance (150) metres.
- Long speed endurance (350) meters.
- Achievement of running a distance of (400) metres.

After that, the tests below were selected based on reliable sources, and the most appropriate test was nominated based on the experience of the researchers:

1. Running test (50 m) from the flying start (Hassanin, 1995, p. 381)

Objective: Measure the maximum translational speed.

Tools: legal track, stopwatches, registration form, assistant team, whistle.

Recording: The time read by the stopwatch in seconds and its parts.

2. Test of running (150) meters from standing (Resan, 1989, p. 224)

Objective: Measure your short speed endurance.

Tools: legal track, stopwatches, registration form, assistant team, whistle.

Recording: The time read by the stopwatch in seconds and its parts. Tested for each player individually.

3. Run test (350) from standing. (Resan, 1989, p. 225)

Objective: Measure your long-term speed endurance.

Tools: legal track, stopwatches, registration form, assistant team, whistle.

Recording: The time read by the stopwatch in seconds and its parts. The test was done for all players together to ensure an element of competition among them.

4. Achievement test of running (400 meters) (Sarreh, 2006, page 27)

Objective: To measure the ability to complete a 400-meter running event.

Tools: legal track, stopwatches, registration form, assistant team, whistle.

Recording: The time read by the stopwatch in seconds and its parts. The test was done for all players together to ensure an element of competition among them.

Research tests

The pre-test was carried out on the research sample of (5) players from the TCP categories (38-37-36) on 6 and 8/8/2023. The first included a maximum speed test of running (50) meters from a flying start and then resting (10 minutes). Then, the achievement test was done by running (400) meters, and on the second day, a test of running (150) meters of short standing was carried out, then a rest (20 minutes), followed by a test of running (350) of standing. As for the post-tests, they were carried out under the same conditions as the pre-tests, over the course of two days 8 and 10/10/2023.

Special high-intensity exercises

- Beginning to apply special, high-intensity exercises during the special preparation period for 400-meter runners in the TCP categories (38-37-36)
- The researchers prepared special, high-intensity exercises with the research objectives mentioned previously, as they included exercises to develop special maximum speed and exercises to develop special speed endurance, as the contents of the exercises were compatible with the characteristics of the players of the TCP categories (38-37-36) for running (400) meters, and were suitable for With the level of players in the TCP categories (38-37-36) representing the national team, their training age, and their level of experience, and it was built according to the results of their pre-tests.
- The national team coaches themselves trained the players in the TCP categories (38-37-36), and the researchers were content to supervise and follow up on the progress of the application in the training units.
- The time period for applying special, high-intensity exercises amounted to (8) consecutive training weeks. The number of training units in one training week was (2) training units on days (Sunday and Thursday) of the week. The total number of training units reached (16) training units.
- The total time of the training units for the players of the TCP categories (38-37-36) ranged between (75 minutes to 90 minutes). The researcher did not interfere in the details of the warm-up and closing sections, and did not enter into the training of each of the other physical abilities, and was content to focus on applying the specific exercises related to them. High intensity in part of the main section of the training units, whose implementation time ranged between (35 minutes to 45 minutes)

Rationing the training load for special, high-intensity exercises:

- In codifying these exercises, the researchers relied on the specifications of the methods of high-intensity interval training and repetitive training to avoid randomness and improvisation in determining their sequence in the training units, and it was as follows:
- Repetitions of exercises in the training units based on the two training methods mentioned.
- The duration of the rest time between exercises, and the rest time between sets, according to the anaerobic energy system. And the experience of researchers in this field.
- Done mTaking into account the principle of alternating muscle work and diversifying the type of special exercises with high intensity, and taking into account the principles of gradation and undulation in increasing the intensity and size of the training load, and that training should be with overload in applying the exercises for the purpose of causing physical development and the desired achievement.
- The training volume was distributed over two days, the first was for transitional speed training, and the second day was for special speed endurance training and completion of running (400) metres.
- As for the degree of difficulty of the exercises, it ranged between 85%-100%. They were distributed in a varying and increasing manner with stabilization to avoid the stress imposed

by high intensity on the muscle cells. Thus, these exercises do not intersect with the principle of gradualness and undulation of the training load, according to what is described in the training units, Appendix No. (1)

Statistical methods

The researchers adopted the latest version of the ready-made statistical package (SPSS) to process the results automatically.

Presentation and discussion of results

The results obtained by the researchers from the use of statistical methods (skewness coefficient, arithmetic mean, standard deviation, t-test for correlated samples) were as shown in the tables below:

1- Results of the pre and post maximum speed tests for the research sample

Table (1) shows the results of the pre and post maximum speed tests for the research sample

Meaning of the difference	(Sig)	value(t)	Standard error	Variance deviation	Average differences	standard deviation	Arithmetic mean	the test	measuring unit	
D	0.06	2.59	0.049	0.11	0.12	0.135	6.45	Tribal	Tha	Run(50) m from the jump start
						0.031	6.32	after me		

The statistical difference is significant if (Sig) > (0.05) at the significance level (0.05) and the degree of freedom (n) - 4 = (1)

1-Results of the short and long special speed endurance tests, pre and post, for the research sample

Table (2) shows the results of the short and long pre- and post-tests of speed endurance for the research sample

Meaning of the difference	(Sig)	value(t)	Standard error	Variance deviation	Average differences	standard deviation	Arithmetic mean	the test	measuring unit	
D	0.001	9.45	0.04	0.09	0.39	0.10	26.45	Tribal	Tha	ran(150) m from standing
						0.05	26.06	after me		
D	0.02	3.75	0.11	0.26	0.43	1.28	49.96	Tribal	Tha	to run (three hundred fifty)m from
						1.04	49.53	after me		

										standing
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The statistical difference is significant if $(Sig) > (0.05)$ at the significance level (0.05) and the degree of freedom $(n) - 4 = (1)$

1-Discuss the results of maximum speed and speed endurance tests

From what is shown in Table (1), it is clear that the results of the disabled players in the TCP category (38-37-36) from the research sample who trained with high-intensity special exercises improved their maximum translational speed values with a shorter time of running a distance of (50) meters in the post-tests than they were. These values were observed in the pre-tests, and the researchers attribute the emergence of these results to the effect of special, high-intensity exercises on speed ability, the first of which is translational speed, as a result of the improvement in training, as maximum translational speed training improved the effectiveness of nerve signals, increased muscle control, and reduced incorrect movements and loss of time, which helped the exercises. The high-intensity special exercises increased the compatibility between neuromuscular work, as they were regulated taking into account the gradation of intensity and according to the possibility of maximum speed at the time of best achievement. This in turn worked as a stimulant that helped break the training threshold that they were at before implementing the application of the high-intensity special exercises. As “the gradation in the intensity of the load will ultimately lead to the development of transitional speed.” (Al-Rabadi, 2004, p. 63) Transitional speed also depends on the flexibility of nervous processes to allow rapid exchange between excitation and activation and enables the muscle to execute movements in the ideal time unit. Receiving and processing information enables quick and optimal response to stimuli, and the processes of matching the internal action of the muscle and matching the joint action of the muscles to build high speed. (Al-Madamha and Al-Sudani 2013, 28) The researchers also attribute the emergence of these results to the appropriateness of the repetitions for these special exercises, which contributed and helped to improve the work of the muscles and reduce their internal resistances by reducing the friction between them during rapid contractions in running, (Al-Frejawi, A., & Adnan, 2023) In addition to taking into account the gradual process of accustoming the muscles to the required movements within the time requirements allocated for each exercise and for a period of eight consecutive training weeks, within the first bioenergy system, which is considered sufficient to improve them in disabled players in the TCP category (38-37-36). (Mahmood et al. , 2023), as the importance of the anaerobic glycogen system (lactic acid) becomes clear in the types of sports whose training requires effort with maximum intensity, such as running (400 and 800) meters. (Hammad, 2010, p. 158) and (Moayed, 2016) Transitional speed also depends on the flexibility of neural processes to allow rapid exchange between excitation and activation and enables the muscle to execute movements in the ideal time unit, (Kadhim, 2012) and the processes of receiving and processing information enable it to respond. Speed optimization on stimuli, internal muscle action matching processes and muscle joint action matching processes to build high speed. (Shaghati, 2011, p. 55) and (Mondil et al., 2023) As for Table (2), it shows us that the results of the disabled players in the

TCP category (36-37-38) who trained with high-intensity special exercises improved their speed endurance test values. In terms of its shorter time in the short and long post-tests than those results were in the pre-tests, the researchers attribute the emergence of these results to the effect of the special high-intensity exercises that the researchers committed to planning in the principle of privacy and taking into account individual differences and which were applied with appropriate repetitions for the disabled players in the TCP category (38 -37-36). (Kzar&Kadhim, 2020) The specific distances for each specialized exercise (Nahid&Faeq, 2019), (Mohammed, D., & Jalal, 2020) increase the effectiveness of the neural prompts to maintain repetitive movements, which corresponds to the improvement of the vital organizations within the muscle cells to supply anaerobic chemical energy through lactic acid tolerance, as well as improving The mechanism of neuromuscular action works for the emergence of reciprocating or repetitive movements that move the body from one place to another, (Yaseen&Alrawi, 2021). These results also demonstrated the suitability of the training method in improving the two special speed endurance tests to suit them with the specificity of the advanced level of runners from the disabled athletes, TCP category (38). -37-36). Also, “There is no scientific fact that denies that developing the endurance of special physical abilities is not necessary in improving achievement in various games, and this is what increases the interest of coaches in searching for the best ways to advance their players by improving the endurance of these abilities.” Angus & Others, 2002) and (JawadKadhim, 2016) Also, “Special endurance works to achieve a new digital achievement and maintain the level in races with repetitive movements.” (Al-Aaydhi, 2011, p. 257) Likewise, “Speed endurance is a necessary ability.” For many sporting events that require performance at maximum or near maximum intensity, as it makes the athlete resist fatigue as a result of the accumulation of lactic acid in the muscles and blood as a result of the lack of oxygen consumed as a result of training.” (Al-Sheikhly, 2000, p. 22) Speed endurance can also be used to develop the coordination of muscle contractions, and repetition methods are used with a high number of sets, a small number of repetitions within groups, and with a training intensity higher than (85%) for the time of attempts, which can be used to develop speed endurance.” (Sports, 2001, p:1-2)

1 .Pre- and post-test results of running the distance (400) for the research sample

Table (3) shows the pre- and post-test results of the 400 distance running achievement test for the research sample

Meaning of the difference	(Sig)	value(t)	Standard error	Variance deviation	Average differences	standard deviation	Arithmetic mean	the test	measuring unit	
D	0.006	5.24	0.08	0.19	0.44	2.66	56.34	Tribal	Tha	Achievement of running (400) metres
						2.62	55.89	after me		

The statistical difference is significant if $(Sig) > (0.05)$ at the significance level (0.05) and the degree of freedom $(n) - 4 = (1)$

1. Discussing the results of the 400 distance running achievement test.

Table (4): The results of the disabled athletes of the research sample, TCP category (38-37-36), who trained with special high-intensity exercises, showed that they improved in their achievement values of running a distance of (400) meters, due to the shorter time of this achievement in the post-tests than their results were in Pre-tests, and the researchers attribute the emergence of these results to the positive effect of special exercises with high intensity, which helped in developing speed ability by improving maximum speed and special endurance capabilities through the appropriateness of these special exercises in which the principle of undulation was taken into account in the training load over a period of (8) weeks. Consecutive training in its rationing in accordance with the determinants of the anaerobic system for supplying vital energy, and to the effectiveness of the two methods of high-intensity interval training and repetitive training by taking into account the principle of gradation in high training intensity to prolong the duration of effort and taking into account the principle of exchange and diversity in the work of muscle groups to avoid the appearance of fatigue, as “the gradual progression of the training load It means adding new requirements at intervals of time that allow adaptation processes to occur and develop.”(Abdul Khaleq, 2003, p. 99), to direct exercises towards increasing endurance capacity by focusing on the appropriate repetitions required by the running muscles to cover the distance of running (400) metres, and this improvement Mechanical and chemical improvements were made to disabled runners in the TCP category (36-37-38) who trained with special high-intensity exercises in reducing the completion time for running (400) metres. (Faaq, 2017) Likewise, “there are three possibilities to increase achievement and delay fatigue, which are: (economy of movement), (anaerobic training improves aerobic energy), and suppressive capacity (lactic acid tolerance).” (Al-Hiti, 2004, p. 91)The researchers also attribute the emergence of these results to the improvement in the completion time of running (400) meters to achieving more than one goal in special exercises with high intensity, which facilitated for the runners the processes of coordination between neuromuscular work and deviating from the norm in exercises that do not give high intensity great importance in developing These adjustments occur under the pressure of high-intensity exercise. (AlJaf& Al-Shamaa, 2021) Also, “the gradual increase in training load is the basis for any player training planning and must be followed by all players who are concerned about their level of achievement.” (Al-Abdullah, 2018, p. 66).

Conclusions and recommendations

After analyzing, interpreting and processing the results statistically, the researchers concluded:

- Applying special, high-intensity exercises helps improve the maximum speed of disabled people in the TCP category (38-37-36) running a distance of (400) metres.
- Applying special exercises with high intensity helps improve speed endurance, especially short (150) meters and long (350) meters for disabled people in the TCP categories (38-37-36) running a distance of (400) metres.

- Applying special, high-intensity exercises helped improve the time to complete a 400-meter run for disabled people in the TCP categories (38-37-36).
- Based on the conclusions reached by the research, the researchers recommend:
- Generalizing the results of this research when seeking to develop and improve the speed ability and completion time of running a distance of (400) meters for disabled people in the TCP categories (38-37-36).
- It is necessary to pay attention to the principle of diversifying appropriate training methods and methods to take into account the principle of individual differences and specificity, and to standardize the training load when training to achieve running a distance of (400) meters for disabled people in the TCP categories (38-37-36) with special exercises of high intensity.
- It is necessary for the Paralympic Committee to pay attention to developing the expertise of coaches in preparing and implementing special high-intensity exercises based on the results of this research.
- Attention must be paid to conducting similar studies on other samples and in other games and activities for the disabled.

References

1. Hammad, Mufti Ibrahim. 2010. Modern sports training. 3rd edition. Cairo. Dar Al-Fikr Al-Arabi.
2. Al-Rabadi, Kamal Jamil. 2004. Sports Training for the 21st Century. 2nd ed. Oman. National Library Department.
3. Salam, Sedqi, Ahmed. 2014. Athletics. Cairo. Modern Book Center.
4. Salama, Bahaa Ibrahim. 2018. Applications of biochemistry and energy metabolism in the sports field. Cairo. Dar al-Hikma.
5. Shaghati, AmerFakher. 2011. The science of sports training and youth training systems for higher levels. Baghdad. Al-Nourin Office.
6. Al-Sheikhly, Shaker Mahmoud Zainal. 2000. The effect of standardized fartlek methods on developing speed endurance, the concentration of lactic acid in the blood, and the achievement of running 400 m and 1500 m: doctoral thesis, University of Baghdad, College of Physical Education and Sports Sciences.
7. fit; I praised. 2019. Sports training strategies for youth. Cairo. Modern Book Center.
8. Al-Tarfi, Ali Salman Abd. 2013. Applied tests in physical education. Baghdad. Al Noor Office.
9. Abdeen, Yasser. 2008. The effect of anaerobic training on some blood variables and digital level among 110 hurdlers. International Scientific Conference at the College of Physical Education for Girls. Zagazig University.
10. Al-Aadhi, SalehShafi. 2011. Sports training (ideas, applications). Damascus. Dar Al Arab. Dar NourNour for Studies and Publishing.
11. Abdel Khaleq, Essam. 2003. Sports training theories - applications. 11th edition. Alexandria. Knowledge facility.

12. Al-Abdullah, GamalSabryFaraj. 2018. Encyclopedia of Endurance and Endurance Training - Physiology - Achievement. C2. Oman. Dar Safaa for Publishing and Distribution.
13. Al-Ali, Hussein Ali, and Shagati, AmerFakher (2006). Rules for planning sports training (training circuits - altitude training - recovery). Baghdad. Al-Karrar Press.
14. Al-Anbaki, Mansour Jamil. 2010. Sports training and future prospects. Baghdad. Sports library.
15. Al-Fadhli, Sareh Abdel Karim. 2006. Kinetic analysis according to moment theory. International Information Network, Iraqi Electronic Sports Academy.
16. salty,Fatima Abed, and others. 2017. Sports preparation in fencing. Baghdad. Al-Faisal Center for Printing and Publishing.
17. Majeed, RaysanKhuraibet. 2001. Planning and evaluating sports training. Tripoli. An-Najah University. Dar Al Shorouk for Publishing and Distribution.
18. Al-Madamgha, Muhammad Reda Ibrahim, and Al-Sudani, Mahdi Kazem Ali. 2013. Foundations of sports training for different ages. Baghdad. Dar Al-Diyaa Printing House.
19. Angus, D.J., Febbraio, M.A., And Hargreaves, M. 2002. Plasma Glucose Kinetics During Prolonged Exercise In Trained Humans When Fed Carbohydrate. Am. J. Physiol. Endocrinol. Metab, 283, E573–E577.
20. Chad Waterbury. 2005. Muscle Revolution : The High- Performance System For Building A Bigger , Stronger, Leaner Body: P: 110 .
21. Goldberger, M, & Gurney. 2011. The Effects Of Direct Teaching Styles On Motor Skill Acquisition Of Fifth Grade Children. Regearch Quarterly For Exercise And Sport. Usa, P:18.
22. Ham Ill, Joseph. 2009. Biomechanical Basis Of Human Movement, 3rd Ed, Copyright, Lippincott Williams & Wilkins, P:321.
23. Lerner K. Lee And Brenda Wilmoth Lerner, Editors . R. 2007. World Of Sports Science, Library Of Congress Cataloging-In-Publication Rc1206.Rc1206.W67, P: 535
24. Petersen, S.,And Miller ,G. And Wenger, H.A. 2002. The Acquisition Of Muscular Strength:The Influence Of Training, Usa.
25. Slonim, A And Hamilton, H. 2005. Respiratory Physiology 11th, Ed. The C.V. Mosby Company Saint Buk, P-211.
26. Sports Coach . 2001. Endurance Training . [Http://Www.Brainul . Demon . Co . Uklendurance . Htm](http://www.Brainul . Demon . Co . Uklendurance . Htm). P2 Of 3
27. Steven Scott Plisk. 2001. Need Analysis High Performance Sport Condition, Human Kentic, U.S.A, P: 4 .
28. Aljaf, N. A. S. ., & Al-Shamaa, H. F. (2021). The Effect Of Varied Training Style On The Development Of Aerobic Endurance And Half Marathon Achievement For Men. Journal Of Physical Education, 33(3), 149–157. [https://doi.org/10.37359/JoPe.V33\(3\)2021.1198](https://doi.org/10.37359/JoPe.V33(3)2021.1198)
29. Mohamed, A. F. ., & Al-Shamaa, H. F. . (2021). The Effect Of Functional Strength

- Training Using Relative Weights On Some Special Physical Abilities And Achieving 400m Running For Men. *Journal Of Physical Education*, 33(4), 9–19. [https://doi.org/10.37359/JoPe.V33\(4\)2021.1207](https://doi.org/10.37359/JoPe.V33(4)2021.1207)
30. Faaq, H. (2017). The Perception Of Spatial Relationship In The Performance Of The Effectiveness Of The Triple Jump For Beginners Ages 13-14 Years. *Journal Of Physical Education*, 28(1), 90–99. [https://doi.org/10.37359/JoPe.V28\(1\)2016.113](https://doi.org/10.37359/JoPe.V28(1)2016.113)
31. Nahid, M., & Faeq, H. (2019). Standardizing Dynamic Lactic Training According To Finnish Scoring Tables On First Day Contestant In Decathlon For U20. *Journal Of Physical Education*, 31(3), 230–235. [https://doi.org/10.37359/JoPe.V31\(3\)2019.878](https://doi.org/10.37359/JoPe.V31(3)2019.878)
32. Ahmed Fadhil Farhan Mohammed Jawad Kadhim, G. M. S. (2016). The Effectiveness Of Injury Prevention Program On Reducing The Incidence Of Lower Limb Injuries In Adolescent Male Soccer Players. *Injury Prevention*, 22(Suppl 2), 346. <https://www.proquest.com/openview/fd995719bc359d2e05fa6fe346bed0f6/1?pq-origsite=gscholar&cbl=2031963>
33. Al-Frejawi, A., & Adnan, B. (2023). The Effect Of Special Exercises Using With Assisting Aids According To Differentiated Learning (Visual Learners) In Learning Crescent Kick In Fighters Of Specialized Taekwondo Schools. *Journal Of Physical Education*, 35(1), 135–149. [https://doi.org/10.37359/JoPe.V35\(1\)2023.1448](https://doi.org/10.37359/JoPe.V35(1)2023.1448)
34. Easa, F. A. W., Shihab, G. M., & Kadhim, M. J. (2022). The Effect Of Training Network Training In Two Ways, High Interval Training And Repetition To Develop Speed Endurance Adapt Heart Rate And Achieve 5000 Meters Youth. *Revista Iberoamericana De Psicologia Del Ejercicio Y El Deporte*, 17(4), 239–241.
35. Jawad Kadhim, M. (2016). Predicting Energy Expenditure Quantity With Lactic Acid Indicator After Maximal Physical Effort For Soccer Players Aged 18 – 25 Years Old. *Journal Of Physical Education*, 28(4.2), 195–207. [https://doi.org/10.37359/JoPe.V28\(4.2\)2016.242](https://doi.org/10.37359/JoPe.V28(4.2)2016.242)
36. Kadhim, M. J. (2012). The Effects Of Drinking Water, Magnetized Through Training On Some Biochemical Variables In Blood. *Journal Of Physical Education*, 24(1), 453–480.
37. Kzar, F. H., & Kadhim, M. J. (2020). The Effect Of Increasing Rehabilitation Program Using Electric Stimulation On Rehabilitating Knee Joint Working Muscles Due To Acl Tear In Athletes. *Journal Of Physical Education*, 32(3), 14–18. [https://doi.org/10.37359/JoPe.V32\(3\)2020.1012](https://doi.org/10.37359/JoPe.V32(3)2020.1012)
38. Mahmood, H. A., Mohammed, P., & Kadhim, J. (2023). Special Exercises For Some Physical , Kinetic And Electrical Abilities Accompanied By Symmetrical Electrical Stimulation In The Rehabilitation Of The Muscles Of The Legs For Patients With Simple Hemiplegic Cerebral Palsy. *Pakistan Heart Journal*, 56(01), 580–595. <http://pkheartjournal.com/index.php/journal/article/view/1291>
39. Moayed, G. (2016). The Effect Of Van Hiele Style According To Cognitive Control Patterns On Learning The Skill Of The Background Rolling Over The Balance Beam In Artistic Gymnastics For Women. *Journal Of Physical Education*, 28(2), 183–198.

[https://doi.org/10.37359/JoPe.V28\(2\)2016.277](https://doi.org/10.37359/JoPe.V28(2)2016.277)

40. Mohammed, D., & Jalal, K. (2020). The Effect Of Exercises Using Rubber Ropes For Developing Boxing Skill Performance Of Torso Rotation And Explosive Power In Youth Boxers. *Journal Of Physical Education*, 32(2), 56–62. [https://doi.org/10.37359/JoPe.V32\(2\)2020.994](https://doi.org/10.37359/JoPe.V32(2)2020.994)
41. Mondher, H. A., & Khalaf, S. Q. (2023). The Effect Of Compound Exercises With The Intense Method And The Training Mask On The Development Of Some Physical Abilities And The Level Of Skillful Performance Of Futsal Players. *Pakistan Heart Journal*, 56(01), 310–323.
42. H. A. Kanber and M. E. Alkhalidy, “Google scholar and the scientific originality of the professor,” *Iraqi Journal of Information Technology*, vol. 8, no. 2, pp. 22–45, 2018. (in Arabic)
43. Mondil, M. T., Prof, A., & Hussein, L. (2023). The Effect Of Using An Innovative Device On Learning The Movement Of The Feet And The Speed Of Kinetic Response , And Some Badminton Skills For Female Students. *Pakistan Heart Journal*, 56(02), 156–164.
44. Mousa, A. M., & Kadhim, M. J. (2023). Nmusing An Innovative Device To Improve The Efficiency Of The Anterior Quadriceps Muscle Of The Injured Knee Joint After Surgical Intervention Of The Anterior Cruciate Ligament In Advanced Soccer Players. *Semiconductor Optoelectronics*, 42(1), 1504–1511.
45. Yaseen, N. K., & Alrawi, A. A. (2021). Constructing And Standardizing Cognitive Test In Artist Competition Rule For Epee Referees. *Journal Of Physical Education*, 33(4), 160–172. [https://doi.org/10.37359/JoPe.V33\(4\)2021.1227](https://doi.org/10.37359/JoPe.V33(4)2021.1227)