Global Scientific Review
A Peer Reviewed, Open Access, International Journal
www.scienticreview.com
Volume 33 November 2024 ISSN (E): 2795-4951

The Effectiveness of a Training Program Based on The Use of Resistance to Sand Frictions on The Improvement of Some Physical and Skill Variables Among Roman Wrestling Players

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Abstract:
The objective of the study was to determine the efficacy of a training program utilizing sand friction resistance in enhancing several physical and skill variables in Romanian wrestling athletes. The study introduced a theoretical structure that encompassed sports training, sand training, physical performance, and skill performance. The study utilized the experimental methodology. The research equipment comprised a racemeter, a stopwatch, a measuring tape, measuring ropes, rubber ropes, weighted medicine balls, iron bars, hurdles, wrestling bars, jump ropes, weight jackets, iron hurdles, and a test involving running, pulling up, bridging, and response speed. A sample of (20) Romanian wrestling players under the age of (17) in the Minya Governorate clubs were subjected to the action of broad jump. The participants were placed into two groups: an experimental sample consisting of 10 players, and a control sample consisting of 10 players from the Military Institution Club in Minya. The research findings verified that implementing a sand resistance training program effectively enhances the physical and skill attributes of Romanian wrestling players. The research suggests prioritizing structured training programs for wrestling players, since these programs have been found to enhance both the physical and skill aspects of the sport. Implementing such programs is crucial for elevating the performance level of players.

Introduction:

The advancements occurring in diverse domains of athletic pursuits demonstrate the enhancement of athletes' physical capacities and the escalating demands of sports in attaining utmost accomplishments. Coaches must consistently recognize the significance of this advancement and its crucial role in shaping the training and competition system, as training is regarded as the link that connects the players and the competition. And fully exploit the physical and athletic abilities to make a significant effect. The training programs have been adapted to align with the advancements in technology and methods utilized during the training process. These advancements have become essential for the player's physical, skill, and psychological recovery. Empirical evidence has demonstrated that their utilization results in elevated athletic performance.

Sand training is a means of training by the body’s resistance to the difficulty of movement on it. It is used with the aim of raising the individual’s physiological and

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physical efficiency to continue performing a task for a long period, as it is considered a means of steadfastness against(Al-Lami,2020).
All different training environments take different forms to increase resistance, and the sand environment has special requirements that the player must fulfill, the most important of which is running on sand, which has an optimal relationship with the appropriate and necessary abilities of the player during competition, as long as the exercises carried out in training and competition movements match the movement and rhythm. This requires taking into account the method of work and the forms of muscle contraction, especially muscle tension.
Training on sand works to directly help raise muscle capacity and its full extension, in addition to raising the efficiency of the athlete's body physiologically. For work, it raises the muscle tone of the nervous muscular system and its systems, as by performing sand stairs exercises, the temperature rises faster. The body and muscles are strengthened, ligaments and cartilage are strengthened to allow more flexibility. It also works to speed up the transmission of nerve effects and thus increase the natural ability to work (Hoseini et al.2022).
The method of training in sand is a training method that has an effective effect in increasing the number of types of exercises available to the athlete. The exercises can be performed on a daily basis, as well as exercises characterized by high intensity, in addition to increasing the time specified for the training unit. Sand is the best natural environment for training against resistance, which works to raise and improve the level of performance. The physical and functional player, training on the sand, especially in recent times, has received the attention of many scientists and researchers in many fields of sports activities with the aim of raising the level of performance for multiple motor skills that meet the requirements of specialized activity.
Sand training represents one of the training trends that has been introduced alongside modern training trends, such as the trend towards applying weight training, water training, and plyometric training, and most recently, training using different environments, the most important of which is the sand environment, where there is a lot of conviction in this method of training in order to achieve greater physical ability for the player. It is possible to This type of training goes hand in hand with physical ability training using other modern methods of training (Pereira,et al. 2020).
The researcher believes that the use of exercises in the sand environment has a good effect on the special physical abilities of wrestling players. Training in the sand is one of the easy training methods that prepares and restores the body's ability to control, especially if it is used as a type of special warm-up. Also, training in the sand works to directly help... Raising the ability of the muscles and their full extension. This is in addition to raising the efficiency of the athlete's body physiologically, as for work it raises the muscle tone of the neuromuscular system and its systems. Also, training in the sand has received the attention of many scientists and researchers with the aim of arriving at unconventional methods of training that rely on the use of mediums. Nature, including the sandy environment, helps raise the level of physical and skill capabilities as it is an essential contributing factor to raising the level of performance of multiple motor and skill skills that are consistent with the requirements of the specialized activity (Mirzaei. 2021).
Physical preparation is one of the purposeful activities based on scientific theories that work to exploit the maximum possible capabilities and talents of the player towards a specific activity in order to reach the highest levels of performance to reach the level

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of competition. The special physical components work fundamentally and important in improving skill performance, and sports training is a purely specialized process. In the external structure, it is considered an important factor in mutual relations, which results in that this process is not specific in one direction, but rather follows special rules for the relationships that combine goal, content, and method as an educational process.

Wrestling matches depend on different movements, consisting of attack, defense, and counterattack. Performance in wrestling requires the ability to diversify the use of these movements, as strength alone is no longer sufficient to achieve victory. Rather, we often find that the good skill performance of the wrestler overcomes the physical characteristics of the competitor in different playing situations. Which requires good skill and planning preparation, such as artistic installations (Kianzadeh et al.2022).

Through the above, it becomes clear to the researcher the importance of organized and planned training programs according to the scientific method for players in various sports and their role in developing their physical and skill abilities. Training programs for wrestling players aim to increase the physical abilities of the players in addition to developing their skills and potentials and seek to enable the player to reach the athletic ability and his ability to perform. The duties assigned to him are carried out to the fullest extent, and the player's arrival at the sports level makes him focus on applying the creative and skillful abilities and reaches the level

The sport of wrestling has greatly benefited from advancements in sports training science and the modernization of training methods. Wrestling relies heavily on not only physical fitness, but also skill mastery, tactical performance, and a high level of strength characterized by speed, flexibility, agility, and muscular ability in the legs. Physical preparation is widely recognized as the fundamental and highly effective foundation for developing mastery in wrestling and securing victory for any athlete. The performance in wrestling is contingent upon the player's proficiency in executing fundamental defensive and offensive abilities. Additionally, the player's motor performance and mastery of game skills are heavily influenced by their level of physical fitness (Daneshmandi, et al.2020).

The researcher believes that wrestling is one of the sports that requires a lot of effort throughout the match and whose players must have physical abilities At a distinct level, so that the skill performance requirements can be carried out correctly and thus reflect on the progress of the level. Resistance training has varied in various forms, whether using body weight resistance training, as in plyometric or partner weight training, or using external resistance, as is the case when we use weight training or using sand. As resistance to the athlete's body himself, these types of resistance now play an important role in training programs directed at the sport of wrestling, which requires a greater ability of all the muscles, vital body systems, and limbs of the body to carry out the effort and sudden performance, out of the belief that going out to such different environments represents a greater challenge for the athletes in addition to the gains they achieve. A good effect on their psychological state (Ulupınar et al.2021).

By informing the researcher of the studies and research conducted in this field, the researcher found that there is a scarcity of studies that dealt with developing training programs using sand contact resistance exercises for wrestling players, which have a major role in improving their physical level and giving indicators of the skill performance expected for them, which stimulates research motivation. This research aims to develop a recommended training program using sand friction resistance

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exercises and to assess its impact on enhancing certain physical and skill characteristics in wrestling athletes.

Study goal:

The present study is to develop a program using sand resistance training and assess its impact on enhancing certain physical and skill-related variables in Roman wrestling athletes.

Literature Review

Previous Studies on Resistance Training:

This type of resistance arises from the friction between a piece of equipment, such as a barbell, dumbbell, or a heavy ball, which the wrestler holds with their palm while their fingers are partly engaged into two cavities armed with the heavy ball. Other cavities are filled with sand or metal shavings. The cavities are then rotated to propel the sand towards the bottom, allowing the palm and fingers to grip and tighten it. The wrestler then acts on the object by turning it around using the two smooth surfaces on the upper part of the stand. The frictional resistance can be increased to amounts exceeding the actual weight. This is because the friction coefficient varies depending on the roughness degree of the surface of the hands, fingers, and the smooth surface designed on top of the metal vases. Furthermore, this frictional resistance is not linear due to the rotating movement of the sand grains, which cannot directly interact with the frictional surface, along with other factors at play (Zhai et al.2021).

The study conducted by Neha in 2022 demonstrates that Wrestling is mostly an anaerobic sport characterized by intervals of intense physical effort. The primary goal of any wrestler is to exert physical dominance over their opponent and establish unequivocal physical control. Wrestling takes place in a demanding setting where there are repeated bursts of intense actions, such as attacks and counterattacks, followed by periods of less intense activity. This article aims to explore the impact of various training regimens on the physiology of wrestlers and determine the most effective training regimen for enhancing their performance. Experimental procedures: For this study, a total of 30 wrestlers aged 15 to 25 were enlisted as participants. Partitioned into three sets, each containing ten elements. Group 1 participated in a resistance training regimen, Group 2 undertook conditioning exercises, and Group 3 adhered to a conventional training schedule. Following the pre-test, a 4-week training regimen is formulated and executed 15 days thereafter. The post-test is subsequently finished. The results demonstrate that the conditioning program significantly improved endurance over a 2-week duration. The resistance training plan led to enhancements in flexibility, strength, and muscular circumference throughout a duration of 4 weeks. The research suggests that resistance training is essential for improving the power and strength of wrestlers. Conditioning regimens are beneficial for a period of two weeks and contribute to the improvement of endurance. Furthermore, it is advisable to participate in a conditioning program one week before to the event, subsequent to the weight training. It has the potential to be the ideal procedure for improving wrestlers' performance.

Previous Studies on Sand Friction Training

Previous studies have examined the types of resistance to physical variables training. Those studies concentrated mainly on the influence of using portable and fixed

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training devices, technical tools, and training exercises to note the effect of those devices on some physical variables. Most kinds of these training devices are with weight elastic power and core exercises, yet a little research was applied to resistance to sand-friction tools or activities which can be utilized out of the sand-friction packet. Recently, however, indicated that the usage of resistance to sand-friction training exercises can be effective in developing and ameliorating agility, explosive power, body flexibility, power strength, body balance, speed in collision and slow motion of some sport players (AZEEM, Dr.Kaukab. 2016).

In 2020, Hammami, M., Bragazzi, N.L., Hermassi, S., et al. conducted a study that investigated the effects of a 7-week plyometric training program on junior male handball players. The study examined the disparities in the efficacy of this training on sand vs a firm surface. A cohort of highly proficient athletes (C, n=10) adhered to a standardized training regimen for their competitive season. The second group incorporated plyometric exercise on a sandy surface into their regimen (PS, n=11), while the third group incorporated it on a firm and stable surface (P, n=10). Each of these groups engaged in this activity on a weekly basis for a total of seven weeks. The tests encompassed measuring the time required to complete a 20-meter run, evaluating changes in direction using the Modified change-of-direction T-test and the Modified Illinois test, conducting a repeated sprint T-test, assessing leaping ability through squat, countermovement, and five jump tests, and evaluating static and dynamic balance. The running speed of the PS group showed the greatest improvement after the intervention, in comparison to the P and C groups. PS outperformed both P and C in terms of change of direction scores. Both plyometric training (PS) and resistance training (P) improved vertical jump ability. The squat jump performance significantly increased ($p = 0.005$; effect size (ES) = 0.170), as did the counter-movement jump performance ($p<0.001$; ES = 0.247). The Repeated Sprint T-test results showed superior performance in the PS and P groups compared to the C group. The PS group experienced the most favorable times, followed by the P group, with a statistically significant difference ($p < 0.05$). The dynamic balance of both groups that performed plyometric activities significantly improved ($p<0.05$). Three distinct facets of the plyometric exercises shown significantly superior development in comparison to the control group. Both experimental groups observed an improvement in their static balance, however, the experimental group PS exhibited a more significant shift compared to the experimental group P. The researchers discovered that, for reasons that remain unclear, a 7-week regimen of strength training (PS) yielded greater improvements in certain performance metrics among male adolescent handball players compared to standard training (P).

Physical and Skill Variables in Roman Wrestling

The study of (Hrvoje, 2022) demonstrate Greco-Roman wrestling? World-class excellence requires how many years of experience? How old must wrestlers be to earn an Olympic or world title? What happens to different-weight athletes as they age? This study investigated all these questions. The study investigated if weight groups affected world-class top-level wrestlers' starting age, wrestling experience, and peak performance age, and what patterns emerged. The study sample (N=299) included wrestlers who earned their first World Championship or Olympic medal between 2002 and 2015. The sample had Beginning, Experience, and Peak age-related characteristics. Factors were analyzed using descriptive statistics. The Kruskal-Wallis

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test was performed to compare weight groups, and graphs showed trends over time. Olympic Games or world championship (OG/WCh) medalists started wrestling at 10.51, +/- 2.98 years. Over 15.09±4.28 years, they trained. They were 25.55±3.10 years old when they earned their first medal. Middleweight wrestlers started training earlier ($p<0.01$) than lightweight and heavyweight wrestlers. They also wrestled more before winning the inaugural OG/WCh title. Early specialization is risky because the age at which people may start wrestling got younger over time. Training years increase when the average age of wrestling start decreases. The study found that lightweight and heavyweight fighters can start training later in life and perform great things with less experience. This study tells wrestling coaches when to start their pupils wrestling, how long they should wrestle before winning their first medal, and what age they should be to earn their first major competition medal (WCh or Olympic) based on weight class.

Research Methodology :

The researcher utilized the experimental methodology as it was highly compatible with the nature of the investigation. The researcher utilized a two-group experimental design, which included a control group and an experimental group. The study incorporated pre- and post-measurements.

Research hypotheses :

1. There are statistically significant differences between the averages of the pre- and post-measurements of the control group in some physical and skill variables among the Romanian wrestling players and in the direction of the post-measurement.
2. There are statistically significant differences between the averages of the pre- and post-measurements of the experimental group in some physical and skill variables among the Romanian wrestling players and in the direction of the post-measurement.
3. There are statistically significant differences between the means of the two post-measurements of the control and experimental groups in some physical and skill variables among the Romanian wrestling players and in the direction of the experimental group.

Research population and sample:

The research population included Romanian wrestling players under 17 years of age in the Minya Governorate clubs, who numbered (80). The researcher selected the research sample randomly from the players of the Minya Sports Club, whose number reached (10) players as an experimental sample, and the players of the Military Institution Club in Minya, who numbered (10 players were chosen as a control sample, and the Railway Club players, numbering 12 players, were selected as a reconnaissance sample.

Distribution of the sample members in a moderate manner:

The researcher confirmed the moderation of the distribution of members in the control and experimental groups, taking into account the factors being studied. The result is displayed in Table (1).

Table (1) presents the arithmetic mean, median, standard deviation, and skewness coefficient for the examined sample variables. (n = 20)

Variables	measruing unit	SMA	median	standard deviation	Torsion coefficient
Age		16,20	16,00	0.83	0.72

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height		Cm	169.00	169.00	2.79	0.00
the weight		Kg	62.30	60.00	7.24	0.95
Training age			5.05	5.00	0.83	0.18
Physical tests	run 100 m	S	13.57	13.71	0.91	-0.44
	Top tension	number	9.60	9.50	2.41	0.12
	The bridge	Measuring tape	11.65	11.00	5.95	0.33
	Reaction speed	Inscribed ruler	17.30	17.50	3.21	-0.19
	Jumping from a standstill	cm	2.09	2.10	0.04	-0.67
Skill tests	Holding the arm, encircling the neck, and throwing through the back		5.65	6.00	0.75	-1.41
	Holding the arm with the arms and throwing through the back		5.80	6.00	0.52	-1.15
	The middle twirl		6.15	6.00	0.93	0.48
	Reverse center hold		5.55	5.50	0.89	0.17

Table (1) clearly shows that the skewness coefficients for the variables in the sample being studied were within the range of (-3, +3). This implies that the distribution of the sample is moderate, falling within a moderate curve.

Equivalence of the two search groups:

The researcher observed a state of parity between the control and experimental groups in relation to the variables being investigated. This is demonstrated in Table (2).

Table (2) The significance of the differences between the two pre-measurements for the control and experimental groups in the variables under study (n=20)

		control group		Experimental group		T
Variables		SMA	standard deviation	SMA	standard deviation	
Age		16.10	0.88	16.30	0.82	0.53
height		168.90	3.45	169.10	2.13	0.16
the weight		61.60	7.47	63.00	7.33	0.42
Training age		4.90	0.88	5.20	0.79	0.81
Physical tests	run 100 m	13.67	0.75	13.47	1.07	0.49
	Top tension	9.20	2.20	10.00	2.67	0.73
	The bridge	11.20	5.77	12.10	6.40	0.33
	Reaction speed	18.20	2.44	16.40	3.75	1.27
	Jumping from a standstill	2.08	0.04	2.09	0.04	0.62
Skill tests	Holding the arm, encircling the neck,	5.70	0.82	5.60	0.70	0.29

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	and throwing through the back					
	Holding the arm with the arms and throwing through the back	5.90	0.57	5.70	0.48	0.85
	The middle twirl	6.10	0.99	6.20	0.92	0.23
	Reverse center hold	5.40	0.84	5.70	0.95	0.75

The tabulated (t) value has a degree of freedom (18) and a significance level (0.05) = 2.10

Table (2) unequivocally indicates that there are no statistically significant differences between the control and experimental study groups across any of the examined variables. This indicates that the two groups are equivalent in those aspects.

Variables.

search tools :

First: the tools used

- A rectameter device for measuring height and weight.
- Stop Watch.
- Measuring tape.
- Rubber ropes.
- Medicine balls of different weights.
- Iron bars of different weights.
- baffles.
- Wrestling signs.
- Jump ropes.
- Weight jacket
- Iron barriers.

Second: Tests

1- Physical tests:

The researcher arrived at physical tests through:

Based on theoretical readings and specialized scientific references, the physical tests were determined and presented to the experts, attached (5), through an opinion poll form to determine their suitability and to add any other variables or delete what they deem appropriate. Through this, the researcher arrived at the physical tests, which are:

- 100 meter running test.
- Upward tensile test.
- Bridge test.
- Nelson's reaction speed test.
- Stability broad jump test.

Scientific transactions for physical tests:

A- Validity:

In order to determine validity, the researcher assessed discriminant validity using a sample of ten players, consisting of individuals both from the research community and from outside the original research sample. The individuals were categorized into two groups, one of which excelled in the sport of wrestling while the other group was less accomplished. Each group consisted of five participants. The Mann-Whitney non-parametric approach was used to determine the significance of the differences between them. The result is displayed in Table (3).

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Table (3)
The significance of the differences between the distinguished and the less distinguished in physical tests
The non-barometric Mann-Whitney method is being investigated: = 10)

the test	The distinguished		Less distinguished		Z
	Average rank	total ranks	Average rank	total ranks	
run 100 m	3.00	15.00	8.00	40.00	2.61
Top tension	7.60	38.00	3.40	17.00	2.26
The bridge	7.90	39.00	3.10	15.50	2.53
Reaction speed	3.00	15.00	8.00	40.00	2.66
Jumping from a standstill	8.00	40.00	3.00	15.00	2.62

The data presented in Table (3) clearly demonstrates that there are statistically significant disparities in the physical tests being studied between individuals who excel in the sport of wrestling and those who succeed in eating. These differences benefit the group of individuals who excel in wrestling, indicating that the tests have the capability to differentiate between distinct groups.

B- Reliability:

In order to assess the reliability of the tests being studied, the researcher employed a procedure known as test-retest reliability. This involved administering the test to a group of ten players who were not part of the research sample, and then repeating the test on the same group after a time interval of three days. Table (4) displays the correlation coefficients between the two applications.

Table (4)
Correlation coefficient between the first and second applications of physical tests (n = 10)

the test		**First application**		**Second application**		**Correlation coefficient**
		standard deviation	SMA	standard deviation	SMA	
run 100 m	S	13.53	0.58	13.50	0.53	0.98
Top tension	number	10.00	1.76	9.90	1.45	0.91
The bridge	Measuring tape	12.00	3.27	12.40	2.84	0.96
Reaction speed	Inscribed ruler	18.60	1.84	18.20	1.48	0.89
Jumping from a standstill	cm	2.08	0.04	2.09	0.04	0.93

The tabular value of (R) at the level of (0.05) = 0.631
It is clear from Table (4):

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The correlation coefficients between the first and second applications in the physical tests under study ranged between (0.89 and 0.98), which are statistically significant correlation coefficients, indicating the stability of the tests.

2- Skill tests:

The researcher arrived at skill tests through:

Based on theoretical readings and specialized scientific references, the skill tests were determined and presented to the experts, attached (6), through an opinion poll form to identify their suitability and to add any other variables or delete what they deem appropriate. Through this, the researcher arrived at the skill tests, which are: :

- The skill of holding the arm, encircling the neck, and throwing from the back.
- The skill of holding the arm with the arms and throwing with the back.
- Midfield skill.
- Reverse middle grip skill.

Scientific transactions for skill tests:

A- Validity:

Validity of Calculation The researcher established the discriminant validity by examining a sample of ten players, including individuals from both the research community and individuals who were not part of the initial research sample. The participants were divided into two groups based on their performance in wrestling. One group was highly skilled, while the other group was less skilled. Each group consisted of five players. Validity tests were conducted on these players, and the Mann-Whitney non-parametric method was used to determine the significance of the differences between the two groups. The results are presented in Table 5.

Table (5) The significance of the differences between the distinguished and the less distinguished in the skill tests under study using the non-barometric Mann-Whitney method (n=10)

the test	The distinguished		Less distinguished		Z
	Average rank	total ranks	Average rank	total ranks	
Holding the arm, encircling the neck, and throwing through the back	7.40	37.00	3.60	18.00	2.15
Holding the arm with the arms and throwing through the back	7.10	35.50	3.90	19.50	1.90
The middle twirl	7.40	37.00	3.60	18.00	2.15
Reverse center hold	7.50	37.50	3.50	17.50	2.39

Table (5) clearly indicates statistically significant differences between the distinguished and less distinguished individuals in wrestling skill tests, favoring the distinguished group, thereby demonstrating the tests' efficacy in differentiating among various groups.

B- Reliability:

The researcher used a way of administering the test twice, first to a cohort of ten players external to the study sample who fulfilled identical requirements as the original sample, with a three-day interval between the first and subsequent applications. This was done to figure out how reliable the tests were. Table (6) shows the scores that show how well the two apps are related..

Table (6) Correlation coefficient between the first and second applications of skill tests (n = 10)

the test	First application		Second application		Correlation coefficient
	standard deviation	SMA	standard deviation	SMA	
Holding the arm, encircling the neck, and throwing through the back	5.90	0.74	6.10	0.88	0.88
Holding the arm with the arms and throwing through the back	6.00	0.67	6.10	0.74	0.90
The middle twirl	6.10	0.74	6.20	0.63	0.90
Reverse center hold	5.50	0.71	5.40	0.52	0.91

The tabular value of (R) at the level of (0.05) = 0.631

Table (6) shows that the correlation coefficients between the first and second skills tests in this study were between 0.88 and 0.91. These are statistically significant correlation coefficients that show the tests were stable.

The proposed training program

The design of the training program is based on the use of sand. The researcher reviewed many specialized scientific references as well as previous studies, and polled the opinions of experts to determine the suitability of the program in terms of the duration of the proposed program's continuation, the distribution of the total duration of the training program over the training stages, the number of different training units, and the foundations of codification. Effort rate using sand drills.

The general goal of the program:

The proposed training program aims to improve the level of physical and skill variables of the wrestling players in the research sample and to know the level of performance development, as it works to improve the skill performance of the players through the use of training environments different from the traditional environment in order to develop some elements specific to the nature of physical and skill performance.

Fundamentals of developing the program:

The researcher reviewed scientific references and previous studies in order to design the program using the frictional resistance of sand, and yesterday it was represented in the following:

1- Taking into account the purpose and type of warm-up according to the nature of training on the sand.
2- Paying attention to the organizational structure of the training unit in terms of:
- Time flow.
- The rhythmic balance between pregnancy and recovery.
- Distributing effort to various muscle groups throughout the body.

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- Standardizing the rate of training effort using sand friction resistance according to the individual differences of players and heart rate.

3- The depth of the sand field was 30 cm and was composed of soft particles that were not strongly compressed.
4- Make sure that the exercises used in the program are consistent with the players' abilities.
5- Make sure to wear quality shoes that are compatible with the friction of the player's feet with the sand.

Program schedule:

Through the researcher's review of some references, the implementation period for the program was determined for two months at a rate of three units per week, with a total number of units (24), and the time allocated for the unit was set at 90 minutes. All conditions for the two research groups were fixed.

Table (7)

Determine the total time of the programs in weeks (distributed in periods)

Period	Number of weeks	The ratio
General setup	2	25%
Private setting	4	50%
Preparing for competitions	2	25%
total	8 weeks	100%

Table (8) Distributing the load over program periods

load period	load cycle	Degree of load	Training load
	(1:2)	middle	%65
	(2:1)	high	%80
	(1:2)	Maximum	%95

From Table (8) the following is clear:

1- The average training load score for the program as a whole is (high), approximately 80%.
2- The average degree of training load during the general preparation period (medium), private preparation (high), and the competition preparation period (maximum).
3- The average load cycle for the program is (1:2), which is suitable for an intermediate level group. The load cycle (1:2) means 2 weeks of high load and one week of medium load.

Steps for planning the proposed training program:

- The researcher designed an expert opinion survey form to help determine the proposed training program.
- Planning the preparation period through the following steps:
- Determine the number of weeks that make up the preparation period, then divide these weeks into three stages (general preparation, which lasts 2

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weeks, special preparation, which lasts 4 weeks - preparation for competitions, which lasts 2 weeks).

- Determine the load cycle and the number of weekly training hours by summing the number of training hours during all weeks according to the degrees of load.
- Establishing general and specific physical preparation requirements in accordance with the set goal.
- Determine the number of training days per week, then set the weekly load cycle, then distribute the weekly training time for each of the "physical-skills" aspects on the days of the week according to the weekly load cycle.
- Choosing the content of the exercises within the training program so that it suits the objectives of the proposed training program.
- Using devices and tools during training because of their importance in raising the level of performance and increasing the ability of players and their commitment to training.
- Using small games and relaxation exercises at the end of training to help players recover.
- Using different training methods to suit the training objective.
- Forming a training load cycle using the undulating method (2:1), taking into account the principle of gradation in the training load in terms of "intensity - volume - rest."

Experimental variables of the training program:

After the general training program for the experimental group was developed, the researcher developed the training method represented by sand exercises and skill exercises for the sport of Roman wrestling, which he designed. The researcher took into account some important points when designing the program, the most important of which are:

The goals set for the experimental group are realistic and appropriate to the players' abilities and potential.

- The loads placed are appropriate to the players' abilities.
- Choosing the appropriate training methods, means and tools to achieve the objectives of the program and the objectives of each training unit separately.
- The flexibility of the program and its suitability for practical application.
- The availability of an element of suspense to the exercises used by diversifying them.
- Adapting exercises to the nature and requirements of the program's stages, objectives, and objectives of its units.
- The load cycle used is appropriate to the players' abilities.

Implementation steps for research:

Survey study:

The researcher executed the exploratory study from April 14, 2024, to April 18, 2024, to assess the appropriateness of the planned training programs for the research sample and to evaluate the validity of the used instruments and assessments. The exploratory investigation culminated in the identification and codification of the training exercises used in the program. The proposal affirmed its validity and appropriateness for investigation.

Pre-measurement:

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The pre-measurement of the research variables was conducted for the two research groups during the period from 6/26/29/2024 AD.

Program implementation:

The training programs took (8) weeks to implement, and were implemented in the period from 4/31/2024 AD to 6/22/2024 AD at (3) units per week.

Dimensional measurement:

After completing the application of the proposed training program, the researcher conducted post-measurements for the control and experimental groups during the period from 9/24/27/2016 AD under the same conditions that were followed in the pre-measurement.

The statistical method used:

The researcher used the following statistical methods as they are appropriate to the nature of the research:

- SMA.
- Mediator.
- standard deviation.
- Torsion coefficient.
- Mann-Whitney non-parametric test.
- Correlation coefficient.
- T-test for the significance of the differences between the means.
- ETA coefficient.
- Percentage improvement.

The researcher was satisfied with a significance level of (0.05), and the researcher also used the Spss program to calculate some statistical coefficients.

Results and discussion:

First hypothesis: The first hypothesis states that:

There are statistically significant differences between the averages of the pre- and post-measurements of the control group in some physical and skill variables among the Romanian wrestling players and in the direction of the post-measurement.

Table (9) The significance of the differences between the pre and post measurements for the control group under investigation in some physical and skill variables among the Romanian wrestling players (n = 10)

Variables		measruing unit	Average pre-measurement	Mean dimension measurement	Average differences	Standard deviation	T value
Physical tests	run 100 m	S	13.67	13.05	0.63	0.07	9.37
	Top tension	number	9.20	11.90	2.70	0.15	11.68
	The bridge	Measuring tape	11.20	9.90	1.30	0.30	4.33
	Reaction speed	Inscribed ruler	18.20	15.30	2.90	0.31	9.22

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	Jumping from a standstill cm	2.08	2.22	0.14	0.02	6.83
Skill tests	Holding the arm, encircling the neck, and throwing through the back	5.70	7.10	1.40	0.40	3.50
	Holding the arm with the arms and throwing through the back	5.90	7.40	1.50	0.17	9.00
	The middle twirl	6.10	7.70	1.60	0.34	4.71
	Reverse center hold	5.40	6.90	1.50	0.27	5.58

The tabular (t) value at a degree of freedom (9) and a significance level (0.05) = 2.26
Table 9 shows that there were statistically significant changes between the control group's average scores before and after the tests in some physical and skill variables. These differences were in favor of the scores after the tests for the Romanian wrestling players.

Table (10) Percentage improvement of the control group in some physical and skill variables among Greco-Roman wrestling players (n = 10)

Variables		Average pre-measurement	Mean dimension measurement	Improvement rate
Physical tests	run 100 m	13.67	13.05	4.54%
	Top tension	9.20	11.90	29.35%
	The bridge	11.20	9.90	11.61%
	Reaction speed	18.20	15.30	15.93%
	Jumping from a standstill	2.08	2.22	6.73%
Skill tests	Holding the arm, encircling the neck, and throwing through the back	5.70	7.10	24.56%
	Holding the arm with the arms and throwing through the back	5.90	7.40	25.42%
	The middle twirl	6.10	7.70	26.23%
	Reverse center hold	5.40	6.90	27.78%

It is clear from Table (10) that:
The percentage improvement of the control group in some physical and skill variables among the Greco-Roman wrestling players ranged between (4.54%: 29.35%), which indicates the positivity of the traditional program in improving the physical and skill variables under study among the control group players.
The researcher attributes this result to the presence of some exercises in the control group that work to improve the physical and skill aspects. Practicing any type of

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exercise leads to improving the physical and skill conditions of the wrestling player, and the change rates were not significantly affected compared to the experimental group due to the nature of the effort. Physical activity was not regulated as was done with the experimental group, and therefore practicing sports activity for the control group led to this slight improvement in their physical and skill levels.

Second hypothesis: The second hypothesis states that:

There are statistically significant differences between the averages of the pre- and post-measurements of the experimental group in some physical and skill variables among the Romanian wrestling players and in the direction of the post-measurement.

Table (11) The significance of the differences between the pre- and post-measurements for the experimental group under study in some physical and skill variables among the Greco-Roman wrestling players (n = 10)

Test	Average pre-measurement	Mean dimension measurement	Average differences	Standard deviation	T value	Eta coefficient
run 100 m	13.47	12.36	1.12	0.36	3.10	0.52
Top tension	10.00	15.70	5.70	0.91	6.28	0.81
The bridge	12.10	4.20	7.90	1.97	4.00	0.64
Reaction speed	16.40	11.40	5.00	0.84	5.93	0.80
Jumping from a standstill	2.09	2.31	0.21	0.01	17.64	0.97

Follow table (11) The significance of the differences between the pre- and post-measurements for the experimental group under study in some physical and skill variables among the Greco-Roman wrestling players (n = 10)

Test	Average pre-measurement	Mean dimension measurement	Average differences	Standard deviation	T value	Eta coefficient
Holding the arm, encircling the neck, and throwing through the back	5.60	7.90	2.30	0.30	7.67	0.87
Holding the arm with the arms and throwing	5.70	8.30	2.60	0.22	11.76	0.94

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through the back						
The middle twirl	6.20	8.40	2.20	0.35	6.26	0.81
Reverse center hold	5.70	7.85	2.15	0.34	6.29	0.81

Tabular (t) value at degree of freedom (9) and significance level (0.05) = 2.26

It is clear from Table (11) that:

There are statistically significant differences between the average scores of the pre- and post-measurements for the experimental group under study in some physical and skill variables among the Greco-Roman wrestling players, in favor of the post-measurement.

Table (12) Percentage improvement for the experimental group in some physical and skill variables among Greco-Roman wrestling players (n = 10)

Variables		Average pre-measurement	Mean dimension measurement	Improvement rate
Physical tests	run 100 m	13.47	12.36	%8.24
	Top tension	10.00	15.70	%57.00
	The bridge	12.10	4.20	%65.29
	Reaction speed	16.40	11.40	%30.49
	Jumping from a standstill	2.09	2.31	%10.53
Skill tests	Holding the arm, encircling the neck, and throwing through the back	5.60	7.90	%41.07
	Holding the arm with the arms and throwing through the back	5.70	8.30	%45.61
	The middle twirl	6.20	8.40	%35.48
	Reverse center hold	5.70	7.85	%37.72

It is clear from Table (12) that:

The experimental group exhibited a percentage improvement in various physical and skill variables among Greco-Roman wrestling athletes, ranging from 8.24% to 65.29%, indicating the efficacy of the proposed program in enhancing the targeted variables among the participants.

The researcher attributes this result to the fact that standardized training programs lead to improving the initial and skill level of wrestling players. The nature of physical effort leads to improving the player's level and works to improve all his bodily systems and helps him perform his life's duties efficiently and easily. Many studies have proven the important role of standardized sports exercises. In improving the player's physical fitness and the extent of their ability to raise the player's level in all his physical,

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psychological, and skill aspects. The results also showed that there was a noticeable change in the experimental group and their improvement significantly. This is due to the nature of the sand exercises within the program, which led to improving these aspects in a positive way and with high efficiency. From what the results showed.

Sand training has a great impact in improving the physical and skill variables of wrestling players. Resisting sand friction creates a different sports environment that improves many physical variables, such as the strength of the leg muscles and many of the requirements required by the physical and skill performance of the wrestling player. It also helps in creating a different environment for the training process. Traditional environments, which provide a kind of diversity in training programs and contribute to the strong return of the player to his original environment represented by the wrestling mat and finding a kind of flow in performing different skills, whether in the standing wrestling position or the wrestling position on the ground.

The third hypothesis: The third hypothesis states that:

There are statistically significant differences between the means of the two post-measurements of the control and experimental groups in some physical and skill variables among the Greco-Roman wrestling players, in the direction of the experimental group.

Table (13) The significance of the differences between the two post-measurements of the control and experimental groups in some physical and skill variables among Romanian wrestling players (n = 20)

Variables		control group		Experimental group		T
		SMA	standard deviation	SMA	standard deviation	
Physical tests	run 100 m	13.05	0.65	12.36	0.80	2.11
	Top tension	11.90	1.85	15.70	2.83	3.55
	The bridge	9.90	5.07	4.20	3.85	3.83
	Reaction speed	15.30	1.70	11.40	2.80	3.77
	Jumping from a standstill	2.22	0.04	2.31	0.02	5.76
Skill tests	Holding the arm, encircling the neck, and throwing through the back	7.10	0.57	7.90	0.57	3.15
	Holding the arm with the arms and throwing through the back	7.40	0.70	8.30	0.67	2.93
	The middle twirl	7.70	0.67	8.40	0.32	2.97
	Reverse center hold	6.90	0.99	7.85	0.63	2.56

The tabulated t-value for 18 degrees of freedom at a significance threshold of 0.05 is 2.10.

Table (13) unequivocally illustrates that there are statistically significant differences between the mean scores of the control and experimental groups in several physical and skill factors among Greco-Roman wrestling athletes. The observed changes

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benefit the experimental group, demonstrating the efficacy of the suggested program in improving the physical and skill characteristics examined among the participants in that group.

The researcher attributes this result to the fact that properly prepared training programs lead to an increase in the physical and skill level of wrestling players. The nature of the regulated physical effort leads to the improvement of these aspects and works to elevate the individual athlete and make him more capable of practicing violent sports activities with great strength and providing him with positive energy through which he can Performing the skills required of him with high efficiency. Sand training is considered one of the most stimulating environments for players, which helps develop the physical aspects necessary for the wrestling player and thus works to develop the skill aspects related to the game.

Results:

Based on the findings of the investigation, the researcher arrived at the following conclusions:

1. The implementation of a program incorporating sand resistance training exercises resulted in significant improvements in the physical and skill-related characteristics of Romanian wrestling players.
2. The implementation of sand resistance workouts has a significant impact on enhancing the skill performance level of Romanian wrestling players.
3. The control group's utilization of the current program resulted in a favorable post-measurement improvement in some physical and skill variables among the Greco-Roman wrestling participants.
4. The improvement rates of the control group in several physical and skill variables among Roman wrestling players differ, suggesting that the conventional program had a positive impact on enhancing these variables in the control group.
5. The experimental group's utilization of the current program resulted in a favorable post-measurement improvement in several physical and skill variables among the Greco-Roman wrestling players.
6. The experimental group of Romanian wrestling players showed improvement rates in certain physical and skill indicators, indicating the positive impact of the training on enhancing these factors.
7. The program now utilized by both the control and experimental groups resulted in an enhancement of some physical and skill variables among the Romanian wrestling players, with a greater advantage observed in the experimental group.

Recommendations:

Based on the findings of the investigation, the researcher suggests the following:

- Emphasizing standardized training programs for wrestling players is crucial for enhancing their physical and skill attributes, since these programs play a vital role in elevating the players' performance level.
- The usage of sand training is relied upon due to its exceptional ability to enhance the physical and skill attributes of wrestlers.

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- Efforts are focused on enhancing conventional training methods, especially in the context of sand training, while also incorporating contemporary approaches.
- Utilizing scientific principles to construct and develop training programs aimed at enhancing the physical and skill capabilities of wrestlers.
- Enhance the wrestling coaches' training skills specifically in utilizing the sand training program by conducting courses to sharpen their proficiency in addressing the challenges they face during the training process.
- It is important to prioritize the development of both physical and skill components, as they are interconnected. Neglecting the physical aspect can hinder the development of skills.

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