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THE IMPACT OF USING FUNCTIONAL STRENGTH TRAINING TO DEVELOP AND ENHANCE THE PERFORMANCE OF WRESTLING GRIPS

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ABSTRACT

This study aims to prepare functional strength training exercises that are appropriate for the research sample in order to improve and develop standing grip performance for freestyle wrestlers, as well as to determine the effects of using these exercises on the research sample individuals in order to improve and develop standing grip performance. Because the selection of the sample is one of the key components of the experimental method and a crucial phase in the research process, the researchers employed the proper approach to address the research topic. Undoubtedly, the researchers consider the research sample from the outset when defining the nature of the issue and the objectives of the investigation. Consequently, a sample of wrestlers from the advanced category—a total of twenty-two wrestlers—were used for the research. They trained in the Al-Adhamiya Club's wrestling hall. The wrestlers, who are members of Al-Adhamiya Sports Club, were chosen on purpose. As a result, there were twenty wrestlers in the experimental sample, or 90.9% of the research population. Anthropometric measures were used by the researchers to confirm the sample's homogeneity. The findings demonstrated that, in the post-test grip performance tests, there were significant differences between the experimental and control groups for the functional strength training activities, with the experimental group doing better. Regarding the recommendations, they state that when training wrestlers' grip performance, functional strength training activities should be used. Additionally, these exercises should replicate skill performance, which includes training the muscles involved in the wrestling grip.

Keywords: exercises, functional strength, standing grips, freestyle wrestling

1- Research definition:

1-1Research Introduction and its Significance:

In contrast to other individual sports, wrestling is a highly compelling individual sport because of its strength, fast pace, and excitement. It includes a number of elements that are entwined with psychological and skill-related elements. Given their critical role in takedowns and the execution of highly precise and powerful grips, wrestling demands specialized training to build strength in the arms and legs. Exercises in functional strength training that are designed to develop and enhance these variables clearly demonstrate this. Training approaches that are bolstered by assessments and functional evaluations help to provide light on how these factors reflect on wrestlers' abilities and, in turn, on a variety of traits in the future. Because wrestling

is a sport that requires grip techniques to evolve, it has become important to study how functional strength workouts affect the performance capabilities unique to Olympic wrestling grips. A novel approach to strength training has emerged, emphasizing functional training using a variety of apparatuses to fortify and increase the strength of the core muscles—which are thought to be the source of all movement.

1-2 Research Problem:

The research problem lies in demonstrating the significance of functional strength training exercises in developing the technical performance level for freestyle wrestlers, given the dearth of studies and research that have examined the study of functional strength training in the sport of wrestling and the belief in the efficacy of functional strength training exercises and their impact on the technical performance level in wrestling, which leads to enhancing the wrestler's efficiency to achieve better achievements. This is intended to support coaches in implementing the most effective training regimens that are appropriate for growing our teams in Iraq and that fit in with the local context, resulting in the greatest sporting accomplishments for the sport in our dear nation.

1-3 Research Objectives:

1. Create functional strength training activities that will help freestyle wrestlers who fit the research sample improve their standing grip performance.
2. Determine the effects of employing functional strength training activities to improve and develop the research sample persons' standing grip performance for freestyle wrestlers.

1-4 Research Hypotheses:

1. Using functional strength training activities, freestyle wrestlers' standing grip performance differed statistically significantly between the pre- and post-tests, with the post-test performing better.
2. There are statistically significant variations in freestyle wrestlers' standing grip performance between the pre- and post-test findings.

1-5 Research Scope:

1-5-1 Human Field: Wrestlers from the advanced category of Al-Adhamiya Sports Club.

1-5-2 Time: From September 22, 2022, to January 12, 2023.

1-5-3 Location: Wrestling Hall at Al-Adhamiya Sports Club.

3- Research Methodology and Field Procedures:

3-1 Research Methodology:

The researchers used the appropriate methodology to solve the research problem, as the essence of the experimental method is to attempt to control all fundamental factors except for one variable intentionally changed by the researchers, which must be measurable.

3-2 Research Population and Sample:

3-2-1 Research Population:

The researchers identified the population deliberately from wrestlers in Baghdad province. The selection of the research sample is closely related to the objectives set by the researchers, and the procedures they use will determine the nature of the community they will select.

3-3-2 Research Sample:

One of the crucial phases and procedures in the research process is the sample selection made by the researchers. Without a doubt, the researchers take the research sample into account right away when determining the nature of the problem and the goals of the study. Consequently, a sample of wrestlers from the advanced category—a total of twenty-two wrestlers—were used for the research. They trained in the Al-Adhamiya Club's wrestling hall. The wrestlers, who are members of Al-Adhamiya Sports Club, were chosen on purpose. As a result, there were twenty wrestlers in the experimental sample, or 90.9% of the research population. The researchers used anthropometric measures to confirm the sample's homogeneity.

Table (1) Shows the homogeneity of the sample in anthropometric measurements.

Variable	Unit	Mean	Median	Standard Deviation	Skewness
Age	Years	21.80	21.5	3.57	1.56
Height	cm	178.3	179.5	2.46	1.37
Weight	kg	76	66.5	7.31	1.36
Training Age	Years	8.43	8.5	2.43	1.26

All results were found to be within (±3), indicating the homogeneity of the sample in the mentioned variables. Then, the researchers divided the sample into two groups, control and experimental, by randomly selecting names based on weight, with (10) wrestlers in each group and with different legal weights.

3-2-1-1 Equality of the sample:

Table (2) "Shows the equality of the sample in the pre-tests for both the experimental and control groups."

Test	Measurement Unit	Control Mean	Control SD	Experimental Mean	Experimental SD	T-Value	Sig	Significance
First Grip	Degrees	6.83	0.57	6.66	0.77	0.16	0.59	Not Significant
Second Grip	Degrees	6.75	0.73	6.09	0.70	0.53	0.47	Not Significant
Third Grip	Degrees	6.08	0.66	6.91	0.51	0.73	0.68	Not Significant

With degrees of freedom (n-2=18) and a significance level of (0.05).

3-3 Identifying the Most Important Grips and Their Basic Components:

Table (3) Illustrates the efficacy of compound grips based on the opinions of specialists and experts.

T	Test Name	Number of Acceptance	Agreement Rate	Acceptance Rate
1	Balance Grip	1	100%	
2	Wick Grip	2	100%	
3	Arm Grab and Head Encircling Grip	3	100%	

3-8 Technical Performance Evaluation of Grips Under Research:

Technical performance tests were performed by the researchers on the research sample, which involved performing the three grips (that are the subject of the study) without resistance and with a partner who was of a similar weight. Using an accompanying Technical Performance Evaluation Form (8), which was shown to international referees and sport experts through video recordings and repeated replays for technical performance assessment, the researchers assigned scores to grip components. Following data collection and analysis, the experts (Attachment 3) decided on a reasonable percentage of 100%. After that, the movie was converted to a CD at both normal and slow speeds. The assessors were then given the CDs to use to grade the pre-test assessments' technical performance using assessment forms for performance stages. A total of ten grades were awarded for each stage. The following were the grip component scores:

3-7 Pre-Test Assessments:

After completing all the scientific and basic requirements for conducting the tests, compatibility tests and technical performance tests were applied to all research sample members on the agreed dates with the team coach on Sunday and Monday, 9-10/10/2022, at 4:00 PM in the Al-Adhamiya Club Hall.

3-9 Training Units:

- Derive the exercises used in the training units from the sport of wrestling.
- Understand the principle of appropriate timing distribution for training exercises.
- Availability of tools, devices, and facilities for learning the sport of wrestling in various atmospheres.
- Consider the principle of practical training for exercises.

3-10 Post-Test Assessments:

Wednesday, October 2, 2021, saw the completion of the application and execution of the training units for the experimental and control groups, followed by the post-test for the dependent variables. There was a skill post-test on Thursday, 11/2/2021. To get accurate results, the researchers made sure that the schedule and the location, time, and assessors were the same as in the pre-tests and that the conditions followed it.

3-11 Statistical Methods:

The researchers used the Statistical Package for the Social Sciences (SPSS) to process the data[1].

4 - 1 - 1 Presentation and Analysis of Performance Level Results for the Experimental Group in the Pretest and Posttest:

To determine the significance of the differences between the pretest and posttest in terms of performance level for the control group, the researchers used a paired samples t-test. The results are presented in Table (4).

Table (4) shows the mean, standard deviation, and calculated t-value for the performance level of the experimental group.

Variables	Measurement Unit	Pre		Post		M dif.	P- vlue	Sig Dif.
		M	SD	M	SD			
Balance Grip	Degree	6.66	0.77	9.5	0.99	2.84	0.00	sig
pinch Grip	Degree	6.09	0.70	9.75	0.96	3.69	0.00	sig
Arm Grip and Headlock	Degree	6.08	0.66	9.33	1.15	3.25	0.00	sig

With degrees of freedom (df) equal to 9 and a significance level of 0.05.

4-1-2 Discussion of the results of pre-test and post-test performance levels for the experimental group:

The impact of training and development on the control group's performance in wrestling grips is clear. The researchers attribute this to the functional strength training undergone by the experimental group, which focused on the core body muscles connecting the lower extremities to the upper extremities. Additionally, the functional strength training involved multi-directional movements, leading to improvements in the wrestlers' performance. This was further corroborated by Jamal, who stated that the characteristics of functional strength training work to strengthen the muscles, consequently enhancing the effectiveness of muscle contractions and leading to better motor performance for the players.

4-1-3 Presentation of the results of performance levels between the control and experimental groups in the post-tests[2].

Table (5) shows the mean, standard deviation, and calculated T-value for the compatibility.

Variables	Measurement Unit	Pre		Post		T value	P - vlu	Sig Dif.
		M	SD	M	SD			
Balance Grip	Degree	7.52	1.27	9.5	0.99	10.23	0.00	sig
pinch Grip	Degree	7.47	0.79	9.75	0.96	11.38	0.00	sig
Arm Grip ar Headlock	Degree	7.37	1.32	9.33	1.15	10.47	0.00	sig

At a degree of freedom (df = 18) and a significance level of (α = 0.05).

[1] Wadee Yassin Mohammed Al-Tikriti, Hassan Mohammed Abdul-Abidi: Statistical Applications and Computer Uses in Sports Education Research, 2nd Edition: (Mosul, Dar Al-Kitab for Printing and Publishing, 1999 AD), pp. 102, 155, 179, 214, 290, 310.

[2] Jamal Sabri Faraj, Physical Preparation for Basketball Players, 2nd edition, Dar Dijlah, Amman, 2007, p. 139.

4-1-1- Discussion of the Results of the Wrestling Grip Performance Level between the Control and Experimental Groups in the Post-Tests.

The experimental group performed better on wrestling grips than the other research groups, according to statistically significant differences in the data. The significance of diversity in utilizing different kinds and types of training, including functional strength training, is attributed by the researchers to these variations in the performance level of wrestling grips. Whether in advancing, retreating, or thrusting motions, functional strength training is thought to be an essential prerequisite for motor skill performance. These motor abilities demand strength and speed to be performed without generating imbalance since the body's center of gravity varies when performing these activities.

The development of motor skills and the success of performance operations both depend on compatibility. Improving compatibility is essential to raising the researched wrestling grips' effectiveness. Moreover, it has demonstrated efficacy in diminishing the duration needed to execute the breaststroke swimming technique. Additionally, compatibility skills accelerate and improve the mastering of complicated and compound compatibility skills, according to Grosser M. Crosser.[3].

The researchers conclude that correct and successful wrestling grip practice necessitates good muscle contraction synchronization and movement continuity. Compatibility exercises in functional strength training, which focus on similar muscles used in motor activities, help establish this synchronization. At the right time, these muscles should contract or relax. This supports the theory put out by Ahmed Abdul Amir, according to which motor coordination refers to an athlete's capacity to carry out motor activities efficiently by sending exact and consistent signals—that is, commands—from the brain to the muscles to carry out motions precisely and harmoniously.[4].

Furthermore, as demonstrated by Qasim et al., functional strength supports the development of a competitive and enjoyable atmosphere as well as motivation and excellence. In order to lessen the physical and psychological strain that wrestling places on athletes as a result of training, they stressed the significance of fostering an atmosphere that is exciting and thrilling to participate in the sport. This method makes the wrestler more motivated to provide their best effort. Excitation and stimulation are two important ways to increase motivation in wrestling education and training. This is especially true while practicing physical movements and athletic skills.[5].

5. Conclusions, Recommendations, and Proposals:

5.1 Conclusions:

1. The experimental group performed better on the grips in the post-test compared to the control group, indicating that functional strength training had a positive effect on the experimental group in the wrestlers' tests.

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[3] Grosser M., Starischka S., Zimmermann E.: Das Neue konditionstraining. BLV Buchverlag, MunchenKp71. 2008.

[4] Ahmed Abdul Amir Hamza. (2006). The Effect of a Proposed Training Field on Developing Motor Control of Some Basic Skills in Football for Players at the Age of 14. Doctoral Dissertation, College of Physical Education, University of Babylon, p. 28.

[5] Qasim Lazam Sabr (et al.): Previously cited source, 2005, p. 39.

2. Functional strength training showed that the research sample accepted the workouts that were included in it.

5.2 Recommendations:

1. Including functional strength training in wrestlers' training.
2. It is imperative that functional strength training exercises, such as those that target the muscles used in wrestling grips, replicate skill performance.
3. Three training units should be included in each training week for functional strength training.

REFERENCES

1. Ahmed Abdul Amir Hamza. The Effect of a Proposed Training Field on Developing Motor Control for Basic Skills in Football Players Aged (14) Years, PhD Thesis, College of Physical Education, University of Babylon, 2006.
2. Gamal Sabri Farag, Physical Preparation for Basketball Players, 2nd edition, Dar Dijlah, Amman, 2007.
3. Ali Fuad Faiq, Special Exercises for Developing Explosive Strength in the Performance of the Snatch Grip for Advanced Roman Wrestling Wrestlers, Journal of Research and Psychology, College of Basic Education, Al-Mustansiriya University, Volume 12, 2018.
4. Wadie Yassin Mohammed Al-Tikriti, Hassan Mohammed Abdul-Abedi: Statistical Applications and Computer Uses in Sports Education Research, 2nd Edition: (Mosul, Dar Al-Kitab for Printing and Publishing, 1999).
5. Deaf Schertz (2010): Functional Training Pyramids, New Truth High School, Kinetic Wellness Department, USA.
6. Grosser M., Starischka S., Zimmermann E.: The New Conditioning Training. BLV Buchverlag, Munich Kp71. 2008.