

## Effect of a Training Program for the Development of the Relative Strength and Performance Level of Elevation the Center Reverse Skill for Wrestlers

*Fathi Abdel-Halim Abdel-Halim*

Athletic Training Department,  
Faculty of Physical Education, Minia University, Egypt

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**Abstract:** The research has included an introduction and the research problem, as the researcher noted to identify the importance of the relative strength of the arms, legs and back and their effect on performance level of the elevation of the center reverse wrestling. The researcher used the experimental method using the experimental design of two groups, experimental and officer and chose a sample of the research intentional wrestlers under 18 years old and registered the Egyptian Union of Wrestling in 2009 where it reached 18 players were divided into two equal groups and after a process of equality and homogeneity of the two groups. The researcher made a measurement for both the physical tests and skill under the experimental and officer groups by measuring the maximum power of the arms, legs and back to determine the level of relative strength, as well as measuring performance of skills in the elevation of the center and inverse by photographing skillful performance with a competitor negative and competitor positive, then the researcher did the proposed program which took 12 weeks by 4 units a week and the training module was of 120 minutes distributed on the components of the module and researcher did dimensional measurements in the variables under induction and of the results of the program and significant differences between the dimensional measurements for the two experimental and officer groups for the experimental group in the variables of physical and skill under discussion for members of the experimental group.

**Key words:** RSI • A land of conflict • Elevation of the center reverse

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### INTRODUCTION

Relative strength is the most important elements of fitness required by the sport of wrestling in the implementation of most skills, defensive or offensive. Captured the center reverse (repo) is very important in Greek Romanian wrestling. Although the performance of this fragment is from a conflict situation to the ground, but the performance gives a good chance of wrestler the striker to lift the wrestler defender high, making him lose his balance to score points easily, and also he kidnaps him to achieve touch shoulders in many cases [1].

Muscle strength is one of the essential ingredients for success in athletic performance. The better wrestler is that who owns much of the genes which allow the development of muscle strength. Training of muscular endurance has its benefits, many of which building muscular body of the wrestler and prevent injuries [2].

According to the amendments of the International Wrestling law, the skill of elevation of center reverse is one of the core situations in which wrestler performs the conflict situation to the ground in Romanian wrestling and it is a great skill influential to win or loss of the offensive player, where the offensive player can win if he could master the performance of this skill because it is one of the great artistic skills.

The skill of the elevation of center reverse inverse the high levels of excellence higher technical performance of the requirements of the power and speed is considered one of the important technical skills [3].

Many researchers have studies on the skill of the elevation of center reverse (repo) which their most important results helped in suggesting the proposed pilot program. A proposed training exercises using balance and strength characterized by the speed affected on the efficiency and effectiveness of the vestibular system performance skill center reverse (repo) for players

wrestling [4]. Using a composite training program led to improving the muscular power of the muscles of the arms and legs as well as improving the skill of elevation of the center [5]. There was a clear progress in the achievement of the experimental group when compared with what has been achieved from one level to the same achievement for the control group while developing the relative strength of legs, arms and determining its effect in the level of discus throw for beginners [6]. The benefits and performance gains are obtained through the force to focus on the Plyometric training needed by sports [7]. The value of the relative strength of more than 1 (integer) indicates that the player is performing well in the movements and strength of arms proportion to the weight of the body is able to overcome the gravitational force of the earth affecting the body, and decreasing this value for the right one indicates that there is weakness in the muscles working in this type of movements and similar movements, that work on the development of these muscles through strength training programs [8].

The problem is that according to the researcher knowledge, there is a lack of researches on the use of force and its effect on the relative skill of the elevation of the center, as the previous studies relied on the development of maximum strength.

**Objective of this Research:** The development of the relative strengths of the arms, legs and back, and investigating their effect on the performance of the skill of lifting the center reverse (repo) of the wrestlers.

#### **Research Hypotheses:**

- There are significant differences between pre and post test in the relative strength of the arms, legs, back and captured by the skill center reverse (repo) for the measurement of the post test experimental group.
- There are significant differences between the measurements of the dimensions of the experimental group and control group for the experimental group in the relative strength of the arms, legs, back and captured by the skill center reverse (repo) in favor of the experimental group.

#### **MATERIALS AND METHODS**

**Methodology:** The researcher used the experimental method for two groups experimental and officer.

**Researcher Sample:** Researcher selected the sample deliberate manner of eighteen players from the wrestlers of Minia sports club and registered in the Egyptian Union of wrestling and divided into two groups each contain 9 players, one experimental and the other officer.

**Equal Sample:** The researcher made homogeneity between the two groups to equal variables in the research.

#### **Search Tools:**

- Registration Form for data record
- measurements of the study (physical variables of the right hand muscles of the back and legs through Dinamocitr of the muscles of the hands and Almanomitr of the muscles of the back and legs - Variables skills in the elevation of the center through taking filmed performance with negative and positive competitor and presented to judges)
- Tools (Mat Wrestling - multiple weights)
- Devices (Dinamumitr - Manomitr - a video camera)

**Steps to Execute the Search:** Survey study was conducted in the period from 10/08/2009 to 08/20/2009, where the researcher chose 8 players of the same research community were selected randomly from outside the original sample

**The Pre-Measurement:** The researcher made the pre-measurement maximum power of the arms, legs and back / body weight and through literature review done by a researcher from the reference and research in methods of measuring the maximum power enable to reach testing and measuring devices used in many research and that after account the scientific processing of some tests calculate the reliability coefficient test application and re-applied for the truthfulness were calculated using the tests of excellence and sincerity as well as test the skill and by photographing skill reverse the elevation of the center with a competitor negative and another positive and view on the judges and give a score of (10) on 24 and 25.08.2009

**Implementation of the Program:** The implementation of the program took 12 weeks in the period from 01/09/2009 until 1/12/2009 by 4 times per week training module of 120 minutes distributed on the components of the module in which the researcher to place the arms, legs and the back of the training program after the work of pre-measurements which select the intensity of training by measuring the maximum power for both the arms and legs,

back, and that the experimental group while the control group was carrying out the regular program.

**Post Measurement:** Dimensional measurements have been made in the variables under discussion after the application of the training program on the experimental group during the days 2, 3 / 12/2009.

**Statistical Treatments:** The researcher used the statistical treatments, which are commensurate with the nature of the research, including the arithmetic mean median standard deviation coefficient of torsion correlation coefficient test and Man Whitney Test and Wilcoxon Signed - Ranks Test. Rate of change, the researcher have embraced level of significance at the level of 0.05. The researcher used the program Sps in the account of some transactions, statistical, based on the samples carrying the number 10 does not use T Test, but possible to use the Man and Whitney [9].

**RESULTS AND DISCUSSION**

It is s clear from Table 1 that there are significant differences between pre and post test of the control group in the variables of physical and skill level under the direction of measurement and in the post test where all the values of SIG <0.05.

It is clear from Table 2 that there are significant differences between pre and post test experimental group in the variables of physical and skill level under the direction of measurement and in the post test where all the values of SIG <0.05.

It is clear from Tables 1 and 2 that despite the occurrence of differences between pre and post test for both control and experimental groups, however carefully consider the statistical data it is clear that there is a marked improvement in muscle strength of the wrestlers sample as a result of repeated training is taking place improvement.

Table 1: Significant differences and rate of change between the mean pre and post test of the control group in the variables of physical and skill level under way and Wilcoxon Allaparrmitrip (n = 9)

Variables	The unit of measure	Pre-Measurement			Post Measurement			Value z	
		Arithmetic average	Standard deviation	Average level	Arithmetic average	Standard deviation	Average level		
Grip strength right	Kilograms	26	1.5	0	27.17	1.41	5	2.754	
The relative strength of the grip of the right	Kilograms	0.45	0.03	0	0.47	0.03	5	2.714	
Grip strength left	Kilograms	20.78	2.05	0	22.5	1.54	4.5	2.536	
The relative strength of the grip of the left	Kilograms	0.36	0.04	0	0.39	0.03	4.5	2.536	
Strength of muscles of the legs	Kilograms	108.11	2.37	3	113.22	3.9	5.25	2.354	
The relative strength of the muscles of the legs	Kilograms	1.86	0.09	1	1.95	0.11	5.5	2.549	
Strength of back muscles	Kilograms	85	2.06	1.5	91.11	5.46	5.44	2.499	
The relative strength of back muscles	Kilograms	1.47	0.09	1.5	1.57	0.11	5.44	2.492	
Sit of lie down30 seconds	Number	26.89	3.95	4	30.22	2.68	5.13	2.233	
Broad jump	M	1.78	0.11	0	1.81	0.1	5	2.754	
Vertical bridge	Cm	23.37	1.26	0	25.17	1.19	4.5	2.53	
Horizontal bridge	Cm	35.94	1.47	4.5	33.56	1.59	0	2.536	
Lie on the italics	Number	32	2.78	0	33.56	2.74	5	2.724	
Lie on the italics to stand seconds	Number	4.89	0.78	0	5.78	0.67	4	2.53	
Stand on the balance beam	seconds	31.11	3.37	0	34.72	3.23	4.5	2.53	
Skill reverse the elevation of the center	Colleague negative	Degree	3.22	0.67	0	4.56	0.88	4.5	2.585
	Colleague positive	Degree	2.33	0.5	4	3.33	0.71	5.13	2.31

Table 2: Significant differences and rate of change between the mean pre and post test experimental group in the variables of physical and skill level under way and Wilcoxon Allparromitrip (n = 9)

Variables	The unit of measure	Pre-Measurement			Post Measurement			Value z	
		Arithmetic average	Standard deviation	Average level	Arithmetic average	Standard deviation	Average level		
Grip strength right	Kilograms	26.11	1.36	0	30.44	0.88	5	2.716	
The relative strength of the grip of the right	Kilograms	0.45	0.04	0	0.53	0.04	5	2.692	
Grip strength left	Kilograms	21.11	1.96	0	25.44	0.88	5	2.692	
The relative strength of the grip of the left	Kilograms	0.37	0.04	0	0.44	0.02	5	2.67	
Strength of muscles of the legs	Kilograms	108.67	4.95	0	123.67	3.87	5	2.699	
The relative strength of the muscles of the legs	Kilograms	1.89	0.14	0	2.15	0.15	5	2.67	
Strength of back muscles	Kilograms	84.78	6.8	0	101.78	6.18	5	2.689	
The relative strength of back muscles	Kilograms	1.47	0.16	0	1.77	0.18	5	2.673	
Sit of lie down 30 seconds	Number	27	3.71	0	35.56	2.35	5	2.675	
Broad jump	M	1.77	0.1	0	1.92	0.08	5	2.677	
Vertical bridge	Cm	23.34	1.06	0	28.67	1.12	5	2.68	
Horizontal bridge	Cm	35.67	1.25	5	29.44	1.13	0	2.68	
Lie on the italics	Number	30.11	4.17	0	36.56	2.35	5	2.673	
Lie on the italics to stand seconds	Number	5.11	0.78	0	6.56	0.53	4.5	2.565	
Stand on the balance beam	seconds	30.83	3.14	0	41.78	2.05	5	2.68	
Skill reverse the elevation of the center	Colleague negative	Degree	3.11	0.78	0	6.67	0.71	5	2.754
	Colleague positive	Degree	2.22	0.67	0	4.89	0.6	5	2.714

Is clear from Table 3 that there are significant differences between the mean measurements of the dimensions of the two groups of control and experimental research in the physical variables and the level of skill under the direction of and in the experimental group where all the values of SIG <0.05.

It is clear from Table 3 that there are significant differences between measurements of both experimental and control groups in the variables under consideration, the researcher attributes these differences to the experimental group adopting a training program proposed for the development of the relative strength of the arms, legs and back, which account the principles and objectives for the development of the relative strength attributed to the weight of the body of the wrestler to access the physical variables question to one correct or

more so the player can perform skills well and that indicated by Sarih [8] that the value of the relative strength whenever one of the largest (1) correct this indicates the player that performed well for the movements.

So there are significant differences between post measurements of the experimental group in the variables skill as a result of the development of the relative strength of the experimental group and this is confirmed by Sarih[8] that the player who has less than its relative strength for (1) correctly indicates that there is weakness in the muscles involved in this kind of movements similar to the previous table and try to clear the researcher to gain access to the relative strength of the arms to (1) correct so improvement in the strength of the arms and legs and the back has an impressive indication of the performance skill

Table 3: Significant differences between the mean measurements of the dimensions of the two groups of control and experimental research in the physical variables and the level of skill under way Man and Tiny Allaparomtrip (n = 18)

Variables	The unit of measure	The officer group N= 9			The experimental group N= 9			Value z	s	
		Arithmetic average	Standard deviation	Average level	Arithmetic average	Standard deviation	Average level			
Grip strength right	Kilograms	27.17	1.41	5.11	30.44	0.88	13.89	3.524	0.0	
The relative strength of the grip of the right	Kilograms	0.47	0.03	5.78	0.53	0.04	13.22	2.98	0.0	
Grip strength left	Kilograms	22.5	1.54	5.61	25.44	0.88	13.39	3.125	0.0	
The relative strength of the grip of the left	Kilograms	0.39	0.03	5.72	0.44	0.02	13.28	3.037	0.0	
Strength of muscles of the legs	Kilograms	113.22	3.9	5.39	123.67	3.87	13.61	3.274	0.0	
The relative strength of the muscles of the legs	Kilograms	1.95	0.11	6.39	2.15	0.15	12.61	2.653	0.0	
Strength of back muscles	Kilograms	91.11	5.46	5.89	101.78	6.18	13.11	2.883	0.0	
The relative strength of back muscles	Kilograms	1.57	0.11	6.17	1.77	0.18	12.83	2.487	0.0	
Sit of lie down 30 seconds	Number	30.22	2.68	5.61	35.56	2.35	13.39	3.118	0.0	
Broad jump	M	1.81	0.1	6.78	1.92	0.08	12.22	2.172	0.0	
Vertical bridge	Cm	25.17	1.19	5.06	28.67	1.12	13.94	3.563	0.0	
Horizontal bridge	Cm	33.56	1.59	13.67	29.44	1.13	5.33	3.369	0.0	
Lie on the italics	Number	33.56	2.74	6.83	36.56	2.35	12.17	2.135	0.0	
Lie on the italics to stand seconds	Number	5.78	0.67	6.83	6.56	0.53	12.17	2.318	0.0	
Stand on the balance beam	seconds	34.72	3.23	5	41.78	2.05	14	3.6	0.0	
Skill reverse the elevation of the center	Colleague negative	Degree	4.56	0.88	5.22	6.67	0.71	13.78	3.48	0.0
	Colleague positive	Degree	3.33	0.71	5.44	4.89	0.6	13.56	3.365	0.0

### CONCLUSION

The experimental group, which perform the proposed training program improved significantly for the control group, which perform the traditional program in the physical and skill variables.

#### Recommendations:

- Applying the proposed training program for the development of the relative strength and improving performance skills in the skill in question.
- Implementing the search on the variable ages.

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