



Original Article

Title:

The Effect of The Bulgarian Bag on Osoto Gari Skill Performance Level in Judo

Author : Prof. Dr. Amal Farouk Ali Salem¹,
Prof. Dr. Hala Nabil Yahya Al-Sayed²,
Shaima Mohamed Mohamed Abdel-Ghany³.

Affiliations: ¹Professor of Training Karate, Department of Compete & Individual Sports Training, Faculty of Physical Education for Girls, Helwan University, Egypt.
² Professor of Training Judo, Department of theories and applications of Compete & Individual Sports, Faculty of Physical Education, Port Said university, Egypt
³ PhD Candidate, Department of Compete & Individual Sports Training, Faculty of Physical Education for Girls, Helwan University, Egypt.

E-mail address :

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Abstract

The research aims to identify the impact of a training program by using the Bulgarian bag on some physical variables and Osoto Gari performing skill. The author used an experimental approach one experimental group with pre-post measurements design. Thirty judo player from Triple Fight junior team at Wadi Degla Club in Maadi participated in the study. The participants age were (17-20) years which were enrolled in Egyptian Federation of Triple Fight (2019- 2020). The results confirmed that the training program by using the Bulgarian bag had positive statistical significance on the physical variables, as well as affecting skill performance level of judo players. There are statistical significant differences between the pre and post measurements of the studied physical variables and skill performance level of Osoto Gari. It would be concluded that using the Bulgarian bag can improve the physical and technical performance of judo players.

Keywords :

Bulgarian Bag; Judo Physical Variables, Osoto Gari judo.

Introduction

The nature of high levels of sports requires the athlete to use his physical, skillful, tactical and psychological capabilities in an integrated manner, as sports training aims to raise physiological efficiency, so the player's physical condition is a good indicator of the player's training condition. For the individual to perform his duties with the highest level of efficiency,



he works to develop and develop the individual's physical, functional and psychological capabilities and the possibility of using them to obtain the greatest benefit for himself and therefore for the surrounding society. (El-Dawoody, 2013)

Sidqi Salam 2014 believes that one of the most important goals of the training process is to reach the highest possible level of the physical and skillful characteristics of the competition practiced by the youngster. (Salam, 2014)

Judo is also a competitive sport, where the success of the player depends on the extent of her physical and skill capabilities that qualify her to achieve the highest level. (Al-Ashram, 2011)

Judo is a sport that requires the player to balance, effectiveness, and timing to pin or throw the opponent. Judo evolved from an ancient Japanese style of defenseless fighting called jujutsu. Judo is one of the main games in Europe, Japan, and the United States. This sport is taught in colleges, schools, and clubs. Physical preparation is the most important pillar of judo. . (Abdel-Ghany, 2012)

Al-Taher Matar (2009) mentions that it has become necessary for those interested in judo and researchers to get acquainted with the right way to be an elite not just a national champion. Therefore, it is necessary for specialists in this field to research and study to come up with the best scientific methods to bring Egyptian judo to developed countries level (Matar, 2009)

Viravasandaram and Palnisami (2015) point out that fitness trainers and athletes are looking for new fitness tools that are functional and achieve the desired results. The Bulgarian bag is considered the perfect tool for being versatile, functional and effective for all types of training. (Palanisamy, 2015)

Osoto Gari skill is considered one of the skills of the two men (Ashi Waza) from the high-playing movements (Nagi Waza), and this movement is one of the strong movements already implemented in matches. After doing the kuzushi, the attacker moves with the left leg forward and to the side while taking a distance for the right leg to move forward and force the back of the defender's torso Back then swing the right leg forward, then the attacker kicks his right leg to the right leg of the defender in the calf, and continues the kicking process for the follow-up process and works on throwing the defender and descending the side fall with the attacker holding the left hand of the defender in order to control and control in the event that the full point is not counted. (Shaddad, 2005)

The Bulgarian bag Training is a crescent-shaped exercise tool used in strength training, speed strength training, cardiovascular training, general fitness, and special fitness. The Bulgarian bag is an ideal tool because it has all the characteristics and features of functional training. (Remco Polman, 2009)



Bulgarian bag was discovered by the Bulgarian wrestler Ivan Ivanov in 2005, when it was noticed that there should be more strength and function training protocols that depend on the body's movements and its full capabilities necessary for success in training. (Baechle, 2002)

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One of the advantages of using the Bulgarian bag exercises is to strengthen the muscular endurance of the arms, shoulders and back of the legs, and also to help in building the basic muscles and improving the general movement of the muscles involved in the movement and agility of the body as a whole. (18, n.d.)

Muhammad Lotfi Al-Sayed (2006) mentions that physical capabilities are mainly related to ways to save energy. The nature of their interdependence differs according to the specialized activity practiced. Although they are related, they are preferred to be dealt with individually and separately, as they differ in their development according to their (Al-Sayed, 2006)

Amr Saber and others (2017) adds that the Importance of Bulgarian Training Bag lies in improving acceleration, arm movements, response time, explosive power and muscular power (Amr Saber Hamza, 2017)

Ahmed Abdel Moneim (2008) mentions that judo has changing attitudes that are distinguished by the variation and complexity of the nature and conditions of competition in it, as well as containing multiple technical skills that the player must implement from the movement to overcome the speed and strength of the opponent's attack, and that in order to improve the speed and accuracy of the movement compatibility of the judo player, it is necessary to develop the different combinations of skillful performances in any form of skill performance, especially those the player performs frequently during the match (Moneim, 2008)

Agnieszka (2005) confirms that the availability of special abilities in individuals in a correct way helps to develop motor skills, as harmonious abilities are necessary all sports activities, as they help improving performance and achieve better results (Agnieszka, 2005)

Relative Studies

Muhammad Mahdi Muhammad Al-Sharnoubi (2015) study "The Effect of a Training Program Using Elastic Ropes to Develop the Muscular Ability of the Arms and Legs on the Level of Performance for Beginners in Judo. The study aims to identify the effect of the training program using rubber ropes on the physical and skill level for beginners in judo The study followed the experimental approach, and the study sample included 50 male students for the third year at the Faculty of Physical Education in Al-Arish in the academic year 2014/2015, and the study reached several results, including the training program using elastic ropes to an improvement in the level of physical performance and the results of some physical traits (in



muscular ability) for the following tests (prone inclined jumping 15 seconds - throwing a medicine ball - wide jump - vertical jump) for the experimental group. (al-Sharnoubi, 2015)

Viravasandaram and Palnisam(Vairavasundaram & Palanisamy) (2012) Study “The Effects of the Bulgarian Bag on Some Physical Variables of Handball Players.” The sample consisted of (30) handball players between the ages of (18-25) years, and they were divided equally into two groups (experimental and control), and among the most important results there was a clear improvement in the explosive strength of the legs, muscular capacity and flexibility in favor of the experimental group that practiced the Bulgarian bag. (Palanisamy, 2015)

Bobu Anthony et al ((2015) study “The Effects of the Bulgarian Bag and the Rope Battle on Some Physical and Physiological Variables of Sports School Students”, and the strength of the research sample was (15) students whose ages ranged from 13-17 years, they were divided equally To three experimental groups, the first experimental group practiced the Bulgarian bag exercises, the second experimental group practiced the combat rope exercises, and the third experimental group practiced both the Bulgarian bag and combat rope exercises, and one of the most important results was a clear improvement in grip strength and vital capacity in favor of the third experimental group. (Bobu Antony, 2015)

Afaf Al-Sayed Shaaban (2019) study “The effect of functional training using the Bulgarian bag on some physical changes and the level of performance of compound offensive kicks for taekwondo players. The research aims to try to identify the effect of functional training using the Bulgarian bag on some physical variables and the level of performance of compound offensive kicks Among the taekwondo players, the author used the experimental approach, due to its suitability for the application of the research and its procedures, using the experimental design with a pre-measurement .The post-test for two groups, one experimental and the other control, and the actual research sample consisted of (25) players, and one of the most important results was that there were statistically significant differences at the level of 0.05 in the level of performance of all compound offensive kicks in favor of the post-measurement of the experimental group (Shaaban, 2019)

Iman Askar Ahmed (2020) study "The effect of sakyō training on interactive agility and offensive and defensive foot movements and their relationship to the level of kata performance of judo cubs." Interactivity, offensive and defensive foot movements, kata performance level (brown belt), interactive agility relationship, offensive and defensive foot movements, and kata performance level (brown belt). Al-Sharqiya Athletic (12:14) six, and the most important results were that sakyō exercises improved interactive agility. (Ahmed, 2020)

Through the author experience as a judo player, adding to observing and analysing the championships and leagues that had been organized by the Egyptian Judo Federation. The author observed the shortcomings of many players in their ability to perform the quick direction change and the speed of motor response to the opponent's mistakes, which makes it difficult for the player to open gaps in order to change positions of the fight, which does not give him the



opportunity to think or make the right decision to maintain his balance or a suitable defense for the attack.

The author suggests that the Bulgarian bag exercises have direct impact on the physical abilities which sequentially has an impact on the skill and competitive efficiency of the judo fights.

Research objective:

- Design exercises using the Bulgarian bag and know its impact on the physical variables and performing Osoto Gari skill.

Research hypothesis:

1. Are there any statistically significant differences between pre and post measurement to experimental group, which implements the program of Specific Stabilizing Exercises on Maximum strength and Explosive power.
2. There are statistical significant differences between the pre-measurement and the post-measurement in the physical variable and skill performance of the Astogari.

Material and Methods

The researchers used the experimental approach using the experimental design of a single experimental group. The study depended on the pre-post and following up measurements.

Participants:

Thirty judo players had been chosen which Registered with the Judo Federation 2021-2022. Their age range from 17 and 20 years old. They were divided into two groups, twenty were for the main experimental application the other ten were for the pilot study. The terms of accepting the judo player is to master the skills of the triple art, and to have at least two years experience. Table 1 shows the homogeneity among the study sample (age, height and weight).

Table (1) Homogeneity among participants (n = 30)

M	variants	unit	mean	SD	Mean	skewness
1	Age	year	19,35	19,00	0,75	0,151
2	height	cm	163,65	163,50	5,60	0,204
3	the weight	kg	63,60	64,50	6,52	-0,317

Table (1) indicates that the values of the skewness for the growth rates of the participants are between (± 3), which indicates a normal distribution of players in those variables.

Research procedures:

1. Data collection tools

The author reviewed previous studies and scientific references. In addition the author used a questionnaire for judo experts. The questionnaires were as following:



- a. Expert opinion to determine the most appropriate physical abilities affecting performance level of judo players.
- b. Evaluating the Skill performance level of judo players.
- c. Expert opinion to determine the most appropriate physical tests for judo players.
- d. Expert opinion to determine the time period and parts of the judo training program.

Those questionnaires should be tested as the following:

The Validity

To investigate the validity of the used physical and skill tests, the author used the validity of differentiation between two groups, one of which is distinguished (the distinguished sample) and their number is (5) players, and the other is non-distinguished and their number is (5) players.

Table (2) Significance between the privileged group and the non-discriminatory group in the physical and skill variables N1=N2=5

M	variants	unit	distinguished		non-distinguished		The difference between the two averages	Calculated (t) value	significance
			M	p	M	p			
1	Osoto Gari endurance speed (25 sec)	Rep.	1,60	0,73	1,25	0,77	0,35	15,092*	0,000

* (t) value at (0.05) = 4.604

It is clear from Table (2) that there are statistically significant differences between the distinguished and the non-distinguished group in the physical and skill variables under study, as the value of (T) ranged from (15,092).

Table (3) Statistical significance between the distinguished and the non-distinguished group in the skill variables under study N1=N2=5

M	variants	unit	distinguished		non-distinguished		The difference between the two averages	Calculated (t) value	Statistical significance
			M	p	M	p			
1	Osoto Gari	degree	3,30	0,92	3,04	1,03	0,26	14,608*	0,000

* (t) value at (0.05) = 4.604



It is clear from Table (3) that there are statistically significant differences between the distinguished and the non-distinguished group in the skill variables under study, as the calculated (T) value ranged (14,608).

Table (4) Statistical significance between the first application and the second application in the physical and skill variables under study n=10

M	variants	unit	The first application		The second application		The difference between the two averages	The calculated (t) value	Statistical significance
			M	p	M	p			
1	Osoto Gari endurance speed (25 sec)	Rep.	1,69	0,78	1,73	0,81	0,04	0,984*	0,000

*(t) value at (0.05) = 0.818

It is clear from Table (4) that the correlation coefficients between the first and second applications in the physical and skill variables under study amounted to (0.984), which indicates the stability of the tests.

Table (5) statistical significance between the first application and the second application of skill variables (n=10)

M	variants	unit	The first application		The second application		The difference between the two averages	The calculated (t) value	Statistical significance
			M	p	M	p			
1	Osoto Gari	degree	3,38	0,69	3,41	0,68	0,03	0,975*	0,000

*(t) value at (0.05) = 0.818

It is clear from Table (5) that the correlation coefficients between the first and second applications in the skill tests under discussion amounted to (0.975), which indicates the stability of the tests.

2. Physical Tests:
 - a. Broad jump stability.
 - b. The bridge.
 - c. Forward bend of Upper body while sitting.
 - d. Balance and jump over the marks.
 - e. 60 m Sprint.



- f. Sit down from the knees bent position.
- g. Push a medicine ball (3 kg).
- h. Sitting on a Swedish seat. The arms between the two legs and the two holding the weight in front of the body. Lift the weight in front of the chest.
- i. Back muscle test–the two legs–fist.

3. Skill physical tests: Osoto Gari skill performance (10 sec–25 sec –45 sec).

4. Pilot Study

The author carried out the pilot study on the 10 Triple Fight players from 6/16/2022 to 6/23/2022, in Wadi Degla Club in Maadi , and the aim was the following:

- a. Identify the validity and safety of the used tools.
- b. Ensure the validity and reliability of the tests (scientific transactions).
- c. How to apply the parts of the proposed program and its suitability for the research sample.
- d. Identify the difficulties and problems that the author may encounter when carrying out the tests for physical and skill and how to overcome them.
- e. Identify the problems and obstacles that the author may face when applying the proposed program and find solutions for it.

5. Measurement

- a. **Pre-measurements** were carried out on (20) players, in Wadi Degla Club, from Saturday 6/18/2022 to Saturday 7/2/2022, including (physical tests and skill physical tests , and the level of skill performance) under study.
- b. **Intermediate measurement** were conducted for skills (Ippon seonagi–Osoto Gari–Ajushi) after completing 12 training units, in order to reach the extent of progress as an indicator that shows the author the extent to which the author is sure of the validity and effectiveness of the exercises used using the Bulgarian bag on the skills under study on the physical aspects and the level of performance in the used program and its suitability for the 20 participants. These measurements are represented in (physical tests, physical tests of skills, and the level of performance of skills) under study.
- c. **Post measurement** were carried out after completing the suggested training program, in Wadi Degla Club, from Thursday 9/1/2022 to Sunday 9/4/2022, and these measurements represented in (physical tests, skill physical tests, and the level of performance of skills) under study.

6. Program application:

The training program was applied from 3/7/2022 to 31/8/2022, within two and a half months, i.e. (10) weeks, with two training units per week on days (Sunday, Wednesday). The training program included (24) training unit that included:

- a. Preliminary part: consists of warm-up and general physical preparation.
- b. The main part: consists of special physical preparation and skill preparation.



c. Cooling down part : consists of appeasement.

Contents of the training unit: The duration of the training unit is (90) minutes, and the contents of the training unit are divided into parts:

Part of training session	Tasks	Duration	Intensity
The introductory part 25 m (40% - 90%)	Warm-up (running, walking, and rope exercises)	5 m	
	Stretches (stretching exercises for working joints and muscles)	10m	
	General physical preparation	10m	interval training (high, low, high) intensity, (60% to 90%)
The main part (60 m)	special physical preparation (exercises of the proposed program using the Bulgarian bag exercises related to the physical and skill variables (Osoto Gari 10 s–25 s–45) .	20 m	(60% - 70%)
	Special skill training designed by the author to develop the skill performance level	25 m	
	Matches or fights. It aims to ensure the skill level under discussion in the legal form and the correct motor path with strength and speed, according to the requirements of the distance between the player and the opponent.	15 m	
Cooling down (5 m)	It contains stretching and calming exercises to relax the muscles and return the body to its normal state		



Equipment

- Weight Balance, measuring tape, judo facilities, Judo mat with a high degree of security and safety, The Bulgarian bag weighs 8 k, Swedish seat, Ropes, wall ladder, whistle.

Statistical methods:

All statistical work has been done using SPSS program to find out the following:

- arithmetic mean.
- median
- standard deviation.
- Skewness, variance, and kurtosis coefficient.
- Correlation coefficient.
- T test

Results

1. There are statistical significant between the pre-measurement and the post-measurement in the physical variables affecting the performance of the Osoto Gari skill (strength characterized by speed, speed, muscular strength, and compatibility).

Table (6) The significance of the differences between the pre-measurement and the inter-measurement in the physical tests under study n=10

M	test	unit	Pre-		post		The difference between averages	t test*	indicat ion	
			M	p	M	p				
1	Distinctive strength with speed	Broad jump from stability	cm	121,50	4,89	140,00	7,38	18,50	6,195	0,000
2	the speed	Running 35 m	second	9,75	0,24	8,72	0,31	1,03	3,553	0,006
3	Flexibility	Elastic behind the thigh and lower back	cm	31,40	2,56	27,70	1,78	3,70	4,854	0,001
4	Compatibility	Throwing and receiving balls	degree	8,10	0,62	13,20	0,55	5,10	13,47	0,000

* "t" value at (0.05) = 2.262



It is clear from Table (6) that there are statistically significant differences between the pre-measurement and the inter-measurement in the physical tests under study, where the value of (T(calculated between (3,553) as the smallest value and (13,471) as the largest value, except for the accuracy test, as there are no statistically significant differences between the pre- and inter-test and the value of (T) calculated (1,309).

Table (7)The statistical significance between the pre-measurement and the post-measurement in the physical tests n=10

M	the exams		unit	Pre-		post		The diff.between n average	t test*	indicatio n
				M	p	M	p			
1	Distinctive strength with speed	Broad jump from stability	cm	121,50	4,89	156,00	10,08	24,50	5,824	0,000
2	the speed	Running 35 m	Sec.	9,75	0,24	7,13	0,23	2,62	18,41	0,000
3	Flexibility	Elastic behind the thigh and lower back	cm	31,40	2,56	20,40	1,62	11,00	9,224	0,000
4	Compatibility	Throwing and receiving balls	degree	8,10	0,62	17,90	0,23	9,80	17,1	0,000

* "t" value at (0.05) = 2.262

It is clear from Table (7) that there are statistically significant differences between the pre-measurement and the post-measurement in the physical tests under study, where the value of (T) calculated between (5,824) as the smallest value and (18,410) as the largest value.

Table (8) statistical significance of differences between the pre-measurement and the post-measurement in the physical variables of skill n=20

M	variants	unit	Pre-measurement		Post-Measurement		The difference between the two averages	t value*	Statistical significance
			M	p	M	p			
1	Osoto Gari endurance speed (25 sec)	Rep.	1,63	0,68	4,05	0,97	2,42	20,804	0,000

* "t" value at (0.05) = 2.262



It is clear from Table (8) that there are statistically significant differences between the pre-measurement and the post-measurement in the physical and skill variables under study, as the calculated (T) value reached (20, 804)

Table (9) Significance of statistical differences between the pre-measurement and the post-measurement in skill variables under consideration n=20

M	variants	unit	Pre-		post		The difference between the two averages	(t) value	Statistical significance
			M	p	M	p			
1	Osoto Gari	degree	3,30	0,73	6,90	0,64	3,60	32,031*	0,000

It is clear from Table (9) that there are statistically significant differences between the pre-measurement and the post-measurement in the skill variables under study, as the calculated (T) value was (32,031).

Table (10) The rate of improvement in the physical and skill variables under study n=20

M	variants	unit	Pre-	Post	improvement rates
1	Osoto Gari endurance speed (25 sec)	repetition	1,63	4,05	148,46%

It is clear from Table (10) that the rates of improvement in the physical and skill variables under study have reached (46, 148%)

Table (11) The percentages of improvement in the skill variables under study n=20

M	variants	unit	Pre-	post	improvement rates
1	Osoto Gari	degree	3,30	6,90	100,09%

It is clear from Table (11) that the improvement rates in the skill variables under study amounted to (100.09%)

Discussion

In the light of the author's findings from the results that were presented and based on the results of the statistical analysis of the research data, with guidance from scientific references and reference studies, where the author discussed the results obtained to ensure the validity of the research hypotheses, which are as follows:

It is clear from Table (6) that there are statistically significant differences between the pre-measurement and the inter-measurement in the physical tests under study, where the value of (T) calculated between (3,553) as the smallest value and (13,471) as the largest value, except



for the accuracy test, as there are no statistically significant differences between the pre- and inter-test, and the calculated (T) value is (1,309).

It is clear from Table (7) that there are statistically significant differences between the pre-measurement and the post-measurement in the physical tests under study, where the value of (T) calculated between (5,824) as the smallest value and (18,410) as the largest value.

The author believes that these differences indicate an improvement in the physical variables of the experimental group members under study. This is the result of applying drills Bulgarian bagbeing researched, which led to a positive effect on the results of the tests . The author attributes this to the proposed training program using Bulgarian bag exercises

Bulgarian Training Bag, which was used within the training units, and it had the effect of the general muscle strength of the body, which concerned with how to perform the exercises correctly and correctly, as the muscle fibers respond better when subjected to the influence of weight or resistance, and this response makes the muscle more capable, and this is consistent with the study of "Amani Fathy (2017) (14), and this development in muscular strength led to the development of strength distinguished by speed, and this was confirmed by "Amr Saber Others" (2017). The importance of Bulgarian bag exercises lies in improving acceleration, arm movements, response time, and muscular ability.

These results agree with Remko Pullman and others"Remco Polman, et al (2009) that drill a Bulgarian Training Bag is an integrated training system that aims to improve acceleration, eye-hand coordination, explosive power, and response speed.

Also, the exercises of the Bulgarian bag, which were used within the training units, had an impact on developing the strength distinguished by speed, as these exercises had an important factor in developing the sense of movement and working on the tension and relaxation of the working muscles during the performance, which contributes to the development of the speed of muscle contraction. Using the bag as a free size in many simple and dynamic movements such as pushing, rotating, swinging, and adding body weight to perform jumps, wapaying offpressure, and withdrawal.

And those uses are commensurate with combat sports, especially judo and triple fight, as judo is a physical and technical skill based on jumping, pushing, pressing and withdrawing.

The author believes that the exercises of the Bulgarian bag, which contained various stretching exercises to move the limbs of the body and the torso in different directions, which would increase the strength and elasticity of the muscles, as the performance of these exercises requires the players to perform different movement positions and a wide range according to the physiological limit required for the joints, and it was These exercises have a clear effect in increasing the strength of the ligaments and tendons surrounding the joint, and this in turn led to the development of flexibility in the players.

Which contributed to raising the level of the players under discussion in the element of speed, flexibility, and strength distinguished by speed and compatibility.



And through the previous presentation is achievedimpositionthe firstsearch and which states that"There are statistically significant differences between the pre-measurement and the post-measurement in the physical variables affecting the performance of the Osoto Gari skill (strength characterized by speed, speed, flexibility, and compatibility).

It is clear from Table (8) that there are statistically significant differences between the pre-measurement and the post-measurement in the physical and skill variables under study, as the calculated (T) value reached (20, 804), it turns out from table (9) thatThere are statistically significant differences between the pre-measurement and the post-measurement in the skill variables under study, as the calculated (T) value was (32,031).As shown in Table (10), (11), that the rates of improvement in the physical, skill and skill variables under study have reached (46,148%), (100.09%).

The author attributes this to the fact that the proposed training program contributed to the development of the physical level of skill and skill in the sport of judo among the Triple Fight junior team in the skills under discussion. 24 units that include the development of the physical and skillful side of Osoto Gari's skill, and this is consistent with the study of "Mohamed Ahmed Sayed Ahmed Gomaa" (2022), "which resulted in an improvement in judo players, and an improvement in the level of performance of motor skills, Karima Magdy Hanafi Abdel Aziz" (2019), which resulted in a significant improvement of the physical and skill variables under study, and the study of "Nellie Suleiman Qutb" (2020), which resulted in the use of Bulgarian bag exercises having a positive impact on the development of physical and skill variables represented in Osoto Gari's skill, and had a positive impact on the skill level of the skills under investigation.

It is clear from the results of Table (8), Table (9), Table (10) and Table (11) that the second hypothesis has been fulfilled, which states the statistically significant differences between the pre-measurement and the post-measurement in the physical variable, the skillful and the skillful, to perform the Osoto Gari skill.

Conclusion(s)

The author reached the following conclusions:

1. The physical and skill level of Osoto Gari's skill for the post-measurement improved over the pre-measurement of the experimental group through the remarkable improvement of the physical variables under study, as well as the remarkable improvement of the skill variables under study
- 2 . The positive effect of the Bulgarian bag on the physical and skill level

Recommendations:

Using the Bulgarian bag is a good tool for improving the physical variables affecting the skillful performance of Osoto Gari. In addition, it enhances the skill performancelevel of judo players. It could be used for different age categories.



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