

# Relation between warm-up with massage before competition and the result of the struggle and performance the boxers

## Authors' Contribution:

- A** Study Design
- B** Data Collection
- C** Statistical Analysis
- D** Manuscript Preparation
- E** Funds Collection

Malik Beyleroglu<sup>1A3CDE</sup>, Hakan Kolayis<sup>1BCD</sup>, Fikret Ramazanoglu<sup>1BCD</sup>, Muhsin Hazar<sup>2BCD</sup>, Alper Cenk<sup>3BCD</sup>, Wojciech Bajorek<sup>4DE</sup>

<sup>1</sup> Sakarya University, Physical Education and Sports School, Turkey

<sup>2</sup> Gazi University, Physical Education and Sports School, Turkey

<sup>3</sup> Gaziantep University, Physical Education and Sports School, Turkey

<sup>4</sup> University of Rzeszow, Faculty of Physical Education, Poland

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## Abstract

### Background and Study Aim:

The massage before the competition and a short technical and tactical performance with a trainer make boxers ready for the exercises.

### Material/Methods:

The research was applied on boxers who fight during Samsun Turkey Senior championship between 05–10.12.2006 and during Sivas Turkey junior championship between 28.01–02.02.2007. 112 volunteer boxers whose average age is  $19.62 \pm 4.333$  years, average weight is  $66.45 \pm 14.577$  kg and average height is  $171.65 \pm 9.730$  cm became a part of the study. The data gained during research verified electronically and statistically analysed using the Wilcoxon Signed Rank Test.

### Results:

The result of this study shows that there is a significant difference between the results of the competition with reference to warm-up with massage and without massage.

### Conclusions:

Noticed that the massage just before the competition provides vigour, flexibility, improve both concentration and easy movement, and is parallel form of warm-up exercises in which boxer used less energy.

### Key words:

boxing • massage • warm-up • boxer performance • specific boxers' skills

### Author's address:

Wojciech Bajorek, University of Rzeszów, Faculty of Physical Education, Towarnickiego 3C, 35-959 Rzeszów, Poland, e-mail: woyto@hoga.pl

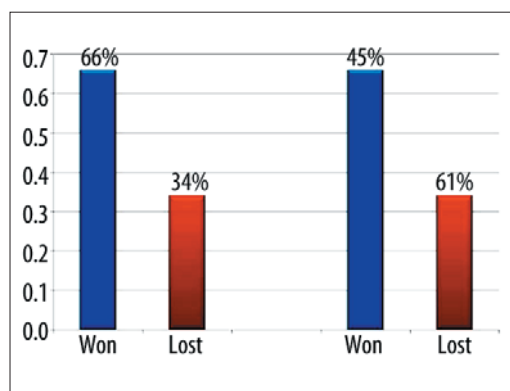
## BACKGROUND

**Boxing** – is a combat sport where two participants, generally of similar weight, fight each other with their fists.

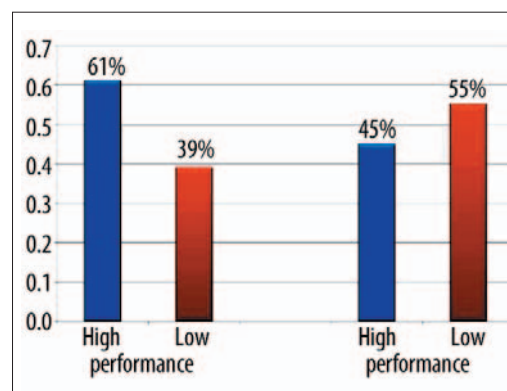
**Massage** – is the practice of soft tissue manipulation with physical, functional, and in some cases psychological purposes and goals.

**Boxing** is one of the sports which is done in limited time called 'round' in a certain place called a 'ring' throughout obeying the specific rules and conditions [1]. The **massage** has been stated to have been used first authors from Babylon, China, India, Persia, Egypt, ancient Greek and Roman communities, it was accepted that it was not only a method of treatment, but also it helped people to improve in social and political areas [2]. In 1932, J-B Coulter defined massage as a group of exercises that

were applied to organs and tissues of the human body [3]. 20 years later Beard explained that the massage is an effect that had been applied to weak and strong tissues of the human body furthermore he emphasized that these were applied to local and common blood circulation with nervous and muscle system by using hands in on effect rue way [1]. Sport massage is a type of specific massage, which is especially used for sports activities. The difference between the sports massage and classical massage is the rhythm of duration and having amount of various pressures. Nevertheless, here is lots of stim-



**Figure 1.** Proportion of fights (won/lost) preceded by two types of the warm-up.



**Figure 2.** Result of boxers' performance.

**Warm-up** – is usually performed before participating in technical sports or exercising.

**Boxer's performance** – the way of fighting based either on simple techniques (one or two) or using a wide range of boxing techniques (feint, simple punch, combinations).

**Specific boxer's skills** – flexibility of movement, rhythm, variation of fighting pace and coordination.

ulating movements' which considering various types of sports [4]. Before the sport competitions and training sessions, the physical and mental exercises, which were done, used to increase the required maximum performance - called 'warm up'. Overall 'warm up' is to make body ready for sports competitions. 'Warm-up' concept should be examined in two ways: these are called common and local warm-up [2].

Local warm-up is to use the ways of active and passive methods to warm some groups of muscles during the preparation of training, which is used after the sportive infirmities and injuries during the rehabilitation time. According to the scientific search warm-up exercise, affect the sportive performance positively [5].

Common warm-up exercise has a great impact on form of both aerobic (with oxygen) energy, anaerobic (without oxygen) energy. Moreover, it is claimed that strength of the muscle has increased with enough warm-up exercises when the activities of nerve – muscle functions examined. As a result of all scientific search it has been proved performance in positive ways [6].

To increase the success of sporting activities, to be able to make a better start for a sportsman before the matches providing a good warm up in a short time with the least energy influences the sportsman's success and psychology. To show the influence of massage on the **boxers' performance** this research has been done considering the advantages of warm-up exercises.

## MATERIAL AND METHODS

The research was applied on boxers which fight during Samsun Turkey Senior championship between 05–10.12.2006 and during Sivas Turkey junior championship between 28.01–02.02.2007. 112 volunteer boxers whose average age is  $19.62 \pm 4.333$  years, aver-

age weight is  $66.45 \pm 14.577$  kg and average height is  $171.65 \pm 9.730$  cm became a part of the study. The height and the weight: the height of the experimental boxers are measured by an equipment which has 20 gram precise measurement while the experimental boxers were wearing only their shorts the height was measured according to cm and the height was measured according to kg. As performance criteria (**specific boxers' skills**) took an intersubjective experts evaluation assessment of the following factors: vigour, flexibility, improvement of the thought level (concentration), easy movement during struggle. Evaluating the statistics: the indicator of the proportion of compared empirical variables and significance of differences of the proportion. The data gained during research verified electronically and statistically analysed using the Wilcoxon Signed Rank Test.

## RESULTS

The results of studies show that the warm-up containing massage is more effective. Accepting as a criteria the effectiveness of the fight competition, 66% of boxers won their fights after the warm-up containing massage and only 34% boxers won after the warm-up not containing massage (Figure 1).

The description of boxer's performance in subjective scale ranging 1 to 10. The results were analysed and showed that boxers' high performance proceeded by the warm-up amounts 61% and boxers' high performance not proceeded by warm-up amount only 45% (Figure 2). Massage has the greater usefulness in the warm-up preceding fights ( $p < 0.001$ ) than the specific high boxer performance ( $p < 0.05$ ) (Table 1).

## DISCUSSION

In a literature investigation about the physiological and psychological effects of the massage, it is widely used to promote the sportsman form handicap to make the

**Table 1.** The comparison of measures between pre-test and post-test.

	Paired differences					t	df	Sig. (2-tailed)
	Mean	Std. deviation	Std. error mean	95% confidence interval of the difference				
				Lower	Upper			
Result competition pre-test - Result competition post-test	-.320	.952	.0952	-.508	-.131	-3.361	99	.001
Result performance pre-test - Result performance post-test	-.160	.748	.0748	-.308	-.011	-2.138	99	.035

muscular firm after the exercise to relax and increase the performance [3]. During the study on the blood circulation found out that the massage affects the blood lactate change, delays the pain in the muscles and the change of blood strengthens the muscles. It is also found out that the massage is positively effective on the perception of becoming stronger after the study on the effects of the massage the investigators have reported that the massage has to be used to increase the performance [3]. After the exercise, boxer had better not rest passively but practice massage as it improves the perception [7]. In another study, it is said that before playing sports, passive exercise, which is also called “massage” effects the main aerobic performance positively, the massage increases the lymphatic and blood circulation, relaxes the muscles, feeds the tissues and strengthens the muscles [8]. In another investigation, it is explained that before an eccentric exercise, the massage delays the pain in the muscles [9] the pain before the exercise is accepted as a normal problem and during the study in which the pain in the muscle was delayed, it was noticed that the massage before the exercise removed the pain [10]. All

in all, it is proved that the massage has a positive effect on our performance when it is well before the exercise it is also thought that the massage is a must to succeed in every field in sports

Finally in this investigation, it is noticed that the massage just before the competition provides flexibility, improvement of concentration, easy movement, sight to be able to see the ring.

## CONCLUSIONS

It is proved that the massage has a positive effect on boxers performance when it is well used before the exercise as a form of warm-up. It is also proved that the massage has practically use but it is also necessary element of success in many fields of sport.

The massage before the competition and a short technical and tactical performance with a trainer optimize players, and increasing capacity of the body to the exercise effort.

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