



Analysis of Boxers' Pulse Oximeter and Chronometry Ability to Perform During Boxing

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ABSTRACT

Psychological emotional training, general physical, special physical, technical, and tactical training of highly qualified boxers remains one of the most pressing issues. Boxing, which is one of the types of martial arts, requires research to improve the effectiveness of the training system for specific competitors. The research paper aims to identify and analyze the highly qualified boxers' pulse during 52 weekly training camps utilizing a pulse oximeter and chronometry to check continuously the physical and health condition of sportsmen. The research took place both in the mountain camp and in daily training sessions as well. The investigation depicts that under the higher-pressure boxer's heartbeat rises meanwhile in the daily training session, it gets normalized. The mixed method, qualitative and quantitative research, draws a clearer picture of the observation. It can be concluded that training in high heel mountains can adapt boxers to better physical conditions and track vulnerable records.

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1. INTRODUCTION

We must focus on solving these pressing problems, using different methods of fighting, and developing efficiency in the training system ([Halmukhamedov, 2022](#)). In boxing qualifying fights, we will now turn to the analysis of boxers' data during the official boxing fights. From the start of the fight to the end, there is a change in heart rate among participants in the final of the Surkhandarya regional boxing championship among adults ([Abdurazzok, 2021](#)). First, we will analyze the pulse rate indicators before the start of the battle, (Pre-start period). So, for example, the pulses of a sportsman varied from 90-146 bpm/minute before the fight, and from 102 to 120 bpm/min in the first discharge. They have an average heart rate of 111 ± 4.4 beats/min in the first athlete in the final 4 fights, and -110 ± 2.2 beats/min in the second athlete. However, although the mean pulse frequency is almost the same in both and here, the variance of this level is much higher (11.37%) than for the first athlete (5.73%). This means that the pulse frequency for the first shooter is much more stable before each battle, which means that the amount of change is much smaller than that of the sportsman. For all participants in the middle finals (8 people), the heart rate before the ring is 109 ± 3.1 beats/minute (96 to 126), and the variance of the range is 8.05% (12.13 to 3.62). up to).

1.2. Theoretical Framework

An analysis of the heart rate data obtained in terms of their dependence from the first battle to the final battle (4 fights by each of the finalists) showed that the pulse increase was almost directly related to the sequence of the battle. For example; For all finalists before the first fight, the average pulse rate was 105 beats per minute, -107 before the second battle, 110 before the third fight, and so on. These indicators rose to their highest point of -114 bpm/min. Thus, the general tendency is to increase the pulse rate when the boxer passes the fight ([Mansur, 2022](#)).

It is no secret that the coach of a successful boxing club needs to have connections within the sport. In order to bring boxers into the competition, hold a boxing show, or to conduct your boxing gym you must communicate with other LBC coaches, officials, athletes, promoters, media, parents, sponsors, and many others ([Maxkamovich & Abdukahorovich, 2019](#); [Rusyani et al., 2022](#)). It is extremely important to your club's continuation. As if this weren't enough responsibility to make coaching a full-time job, now add to your Contact List the city officials, extraneous trainers (strength and conditioning, diet, etc.), landlords, bill collectors, and all the incoming callers ([Samson & Agboola, 2022](#)).

The paperwork alone is a hefty load- and involved each athlete and potential athlete who crosses your threshold.

This seemingly unmanageable task list could become entirely impossible if you as a coach are not able to form positive relationships with most of these people. Just as your athletes are representative of your teaching methods, your conduct in all of these business relationships is representative of your organization as a whole. Detailed information is in **Figure 1**. Some suggestions on how to conduct yourself in these daily interactions between yourself as a coach, and all of the other entities your position requires contact with are as follows:

- (i) Speak professionally and respectfully in all of your communication.
- (ii) Delegate tasks that have become overwhelming to a second, trusted party.
- (iii) Keep communications flowing with Regional Boxing Coordinators, and keep yourself up to date on the happenings in your Region.

- (iv) Be courteous to Doctors, Officials, Volunteers, Police Officers, and others who have agreed to help run the Boxing Event, even if it is not hosted by you.
- (v) Be gracious to every Coach who has brought an athlete to the competition- even if it is not your competition. Encourage all of your team to do the same.
- (vi) Take any Regional Meetings/ Clinics offered seriously; attend them yourself whenever possible, but certainly encourage any volunteers/ parents who are willing and able to attend.
- (vii) Understand that the more positive relations you have carefully developed, the more potential for you and your athlete to experience Growth and Success.
- (viii) Consider the greater good of your Organization, Boxing as a sport, and your personal sanity if you should have a strong disagreement with anyone in the sport.
- (ix) Should you need to take action over a disagreement/broken USA Boxing rule, please direct your situation appropriately:
- (x) Disputes over Bouts (Protests) must be submitted to the Supervisor (Chief Official) immediately. Judgments are not protest-able but rule/procedure violations are
- (xi) Grievances for violations against a person are placed before the judicial committee of the LBC
- (xii) Grievances against the LBC or which would put the LBC in a conflict of interest are filed with the USA Boxing Grievance committee
- (xiii) Grievance procedures are on the website or obtainable through the office.

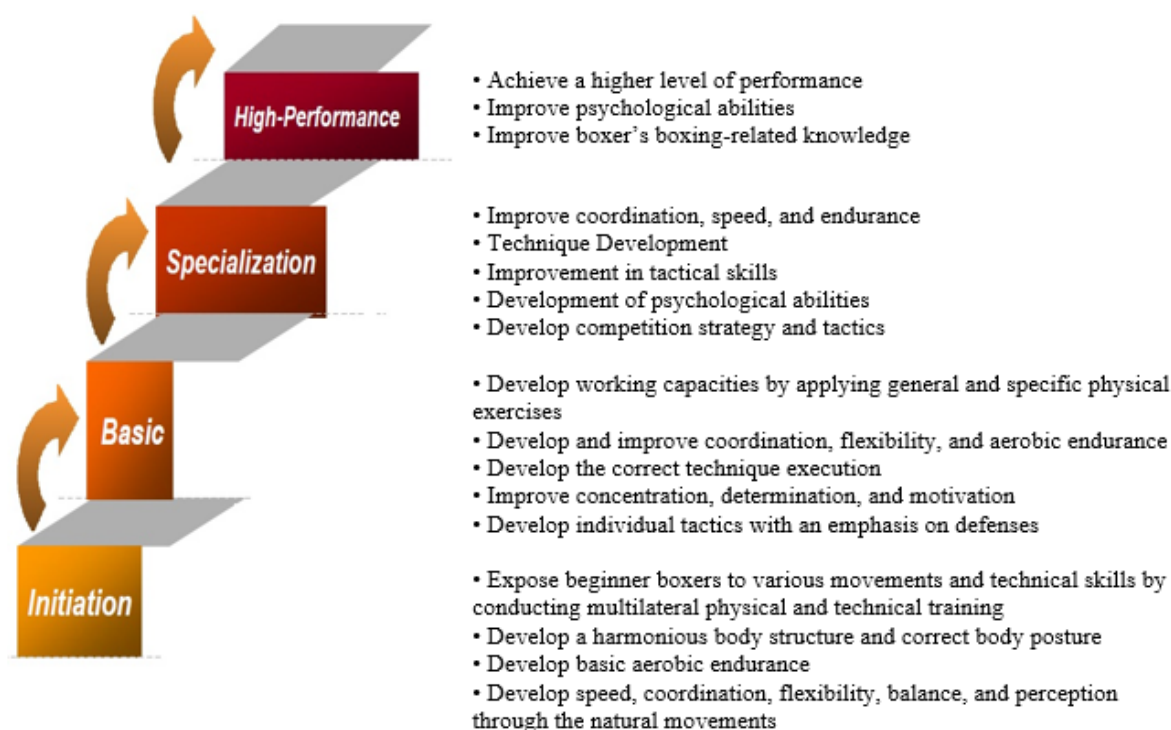


Figure 1. Detailed steps used in this study.

2. METHODS

This article's objective is to analyze boxers' pulse oximeter and chronometry ability to perform during boxing. The observation took place in the boxing camp of the Uzbek national boxing team in Chirchiq Mountain. The duration of field observation lasted for a year, the last

52 training sessions before the world cup in Russia. The data were collected through the latest IT apps using gadgets and pulse oximeters connected to boxers' bodies during the training (Kurbanmuratovich, 2022; Usmonov, 2019).

It required some time to investigate the boxer's capabilities and develop their strength, power, heartbeat, flexibility, and skills as well to obtain the initial results. The process for evaluating the obtained initial results is based on both empirical (such as observation, conversation, questioning, and checking heartbeats and strength and theoretical (such as studying the literature on the research topic, theoretical analysis, modeling, and others) methods, which are required to judge the reliability of empirical data. The author paid special attention to modeling boxers' training trajectories when dealing with movement and strength by developing the flexibility of the sportsmen. The second stage involved developing a theoretical disciplinary model that was aligned with the training sessions. The experience of enhancing the strength and their ability to perform high performance during competitions.

3. RESULTS AND DISCUSSION

A slight drop at the end of the pulses is because the results of this fight do not affect the final distribution of the seats, so athletes have a very low emotional tension. Here's a look at the finalists' heart rates after the fight. The biggest obsolescence of pulse was recorded by the first grader Alisher Alimov (student of Olympic School in Surkhandarya region) (186 bpm). It was the difference between the pre-fight (102) and the post-180 (180) degrees. The second battle difference is 78 beats/min. The smallest range of differences was revealed in the final battle (96-108), which increased to just 16 shots [11, 12]. For all the finalists, the average level of heart rate (heart rate) increases by 55 shots in combat. We will compare comparisons of heart rates of two of the strongest boxers in Termez, Surkhandarya region (Fazliddin Kattakulov, weightlifter 56 kg in Uzbekistan 2019 and Akmurud Gafforov, 75 kg weight champion in Uzbekistan). The data was obtained from the 2019 Battle of the Surkhandarya Region Boxing Championships.

The competitions were held in the Olympic system. In the qualifying rounds, the average pre-fight and home-based pulse frequency during the qualifying rounds are characterized by typical shifts (F. Kattakulov-112-170 beats per minute, A. Gafforov-108-176 bpm). that is the rate of pulse increases by 51.7% in one boxer and by 62.9% in comparison with the previous one. The absolute pulse rate of F.Kattkulov is 174 bpm. and at the end of the battle, it was 198 z / m. Difference 24 bpm/min This indicator increased by only 13.7%. Even less change in the same second battle was A. It was recorded in Gafforov, where the heart rate increased from 180 to 198 beats/min, which is 18 beats/min. It was also noted that the pulse rate before the third body was recorded at 174 beats /min, and finally 198 beats / min. was at the level. This is explained by small pauses of rest between the fights, which are regulated by the rules of the competition.

In sports, these pauses are even smaller, especially between the first and the second battles, which means that when the first battle is over, the pendulum will soon begin. Of course, in such a system of combat the pulse is only partially recovered from the prefight level, with a very high pulse frequency of 162 beats / min to 186 beats per minute, which results in a relatively small difference in the pressure and end of the fights. Nevertheless, these fights are generally the same as the intensity of the movement. Such a load is a bit different from an athlete's body. As a result of this fight (especially in the third round of the fight), it causes a high impact on the cardiovascular system. Result and Discussion: The analysis of the final fights by F. Kattakulov showed typical squeezes of the heart rate before and after the fights. The average difference between these levels is 52 beats per minute. Data

from two of the strongest boxers in Termez (recordings of heart rate) allow us to stress that the use of a combined system of competitions puts the athlete's high expectations. It starts with a more functional and emotional (emotional) level than the athlete's battle with rounds.

To have a better idea of the pulse rate shifts in high-skilled boxers before and after the fights, this research paper highlights the intensity of pulse rates after the end of various important fights for Uzbek boxers, in particular with the return of results from training sessions; Record the Pulses Frequency of the Official Tournament Fights in October 2019 in Tashkent before the Boxing Adult Boxing Championships. Seven athletes were included in the observation, including the Olympic, World, and Uzbekistan champions. Competition fights were analyzed during the official tournaments - three rounds were held for control, with the lowest average pulse rate of the squad members recovered from the individual exercises in combat (up to 165 blows/min at 141). Battles for Protocol 4 (148 to 168 bpm/ min) of the training sessions, with the results of the severity considered.

The highest average pulse frequency was recorded in the first competition fights (151 to 179 beats per minute). The frequency of shrinkage after the third fight was no different (even slightly lower) than the results of the competition fights with the transcript. The low level of pulse in this battle is explained by the fact that it does not matter to the team. The fact is that the first and second battles of the competition have practically solved this problem, and the third fight will not do anything, hence the low intensity and mental tension in these fights. Results of observations of pulse frequency by members of the national team of Uzbekistan in conducting various important battles have shown that pulse acceleration depends to some extent on combat functions. This is clearly illustrated by the fact that each participant is given a moderate pulse rate after many different fights (the first martial arts criteria were used as the criterion for tournament fights). also depends on the This is especially true in boxing fights, where the high intensity of movement is accompanied by emotional excitement.

What is interesting is that the training fights, the results of which are repeated in the protocol, are responsible for their intensity and intensity, and the competition fights. This conclusion should be considered by the boxer when individually planning the training load.

Finally, to be discussed, several information must be added, including no limitations on age. The study participants' occupational limitations are not considered. The following are some of the both mental and physical strengths of the boxers:

- (i) the sportsmen can move freely and calmly during the competitions;
- (ii) increased visual and auditory consideration due to the extensive use of training in high-heel mountains
- (iii) ease of re-perceiving information that is not understood due to the possibility of re-watching video training;
- (iv) The ability to use a variety of assignments and learning resources, as well as diverse styles of thinking and thinking.

Then, while remote training improves the strength and ability to move smoothly, it weakens the will and encourages sloth. Frequent training enhances the boxers' physical condition.

4. CONCLUSION

Competition fights impose higher demands on boxers' cardiovascular systems. Specifically, it was found that in individual fights, boxers have an absentee heart rate of 190 or more blows per minute, which corresponds to the pulse rate of athletics and swimming. The difference between the pulse rate at the start of the fight and the pulse rate after the end of the brawl

varies from 40 to 60 bumps / min. by 100% or more. There will be significant individual changes in heart rate for heavyweight boxers before and after the fight during training and tournament fights.

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6. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. Authors confirmed that the paper was free of plagiarism.

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