

The effect of the mind concentration / relaxation of body and soul (recovery) in karate sports students after a session of karate practice in Gorgan

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Abstract

The purpose of this study is to investigate the effect of mind concentration / relaxation of the body and soul (recovery) on sport students. This is semi-experimental research with pre-test and post-test design. The statistical population of this research included all men aged between 20-40 years old in the karate field in Gorgan. The sample included 21 athletes who were selected through availability and voluntary sampling method. The used instruments included General Health Questionnaire (GHQ). Data were analyzed using covariance analysis methods. The results of covariance analysis showed that the effect of mind concentration / relaxation of body and soul (recovery) on sport students was significant.

Key words: Concentration of mind, body and soul, athletes.

Introduction and statement of the problem

In the field of martial arts after long and intolerable exercises athletes reach the weakest performance at the end of the training which has caused them a great physical and mental challenge. Physical challenge is due to the production of lactic acid and pain in the muscles of the body and the psychological challenge due to thinking of absorbing pain in mental spaces. Mental exercise is as effective as physical exercises on players' achievement. These exercises can put normal athletes, as a result of aerobic exercises lactic acid production as well as high and slow heart rate returns to a normal and natural state (Fooladvand, 1393).

One of the inevitable aspects of sport competitions is competing in tense circumstances. Depending on the athlete's perception, these conditions are interpreted in different ways. In the case of understanding the competitive situation as a threatening condition and responding to this situation with tension and stress, competitive anxiety is created in an athlete.

Much research has been done on the effects of anxiety on athletes' performance (Wolf, Eys and Kleinert 2014).

One of techniques used to reduce the sport symptoms, which has been largely investigated in terms of its effectiveness and success is meditation or therapeutic treatment; all research indicated the beneficial effects of this technique (Bernard, 2012).

Meditation is considered as one of today's modern treatments that is used by psychotherapists and physicians based on thoughtful aspects of modern psychotherapy. Meditation is a relatively new therapeutic approach that is composed of ancient and new methods of meditation. This different cognitive methodology teaches people the ordinary attitudes. This new attitude can create new therapeutic horizons in the mind of the athlete. Meditation can meet the supervised care needed for a limited time (Amanz, 1392).

The effects of meditation are deep and rapid, therefore using it reduces the length of treatment sessions, so the patient can quickly gain their mental and psychic balance (Lee et al., 2011). The researcher has proposed an integrated approach to mind consciousness with cognitive-behavioral intervention. The most common method of teaching mind consciousness is mind training and awareness of anxiety reduction which is known as anxiety decrease and tranquility program (Omidvar, 2011).

Relaxation is used as an effective treatment for anxiety disorders. In Bastani et al's study in 2012 applied relaxation is a combination of muscle relaxation and respiratory techniques which have a main role in reducing athletes' stress levels.

The progressive muscle relaxation method was introduced by Edmond Jacobson in 1934. This method is a component of cognitive-behavioral therapy that is designed to reduce the stress and anxiety through muscle relaxation (Saeidi 2012: 10).

Progressive muscle relaxation is a non-invasive, low-cost, uncomplicated method that can be done independently by the individual. Muscle relaxation is a systematic treatment for controlling anxiety, insomnia, high blood pressure and digestive disorders such as indigestion and leads to deep relaxation (Shobeiri et al. 1394:3).

Hippocrates believes that relaxation can dramatically change the activity of auto nerve. As a result, it affects a person's physiological response to stress. Martin (2013) and Lau (2010) mentioned relaxation techniques as an integration of a variety of psychological-physical and cognitive-behavioral interventions to balance the psychic and emotional functions in mental and physical reactions (Lau, 2010).

The purpose of this study is to create awareness of muscles tension and relaxation. The meaning of relaxation progression is that muscle contraction movements begin at regular intervals with head, neck and face muscles, then include the middle and end organs of the body. In this method, the person by doing contraction movements and returning them deliberately to relaxing position increases blood flow and improves the blood supply of organs (Kordi et al, 2012:19).

One of the used approaches is relaxation intervention. Relaxation is a combination of cognitive-behavioral and psychic-physical interventions that balances mental and emotional functions and by making appropriate physical and mental responses reduces the physical and mental stresses (Lau and Macmain 2005).

Techniques of this therapy are classified in 2 groups:

First group techniques focus on physiological responses (Jacobson breathing training) that range from muscular exercises to mental exercises (progressive muscle relaxation). Second group includes various types of relaxation such as meditation which begins with mental exercises and finishes with muscle relaxation (relaxation

based on mental imaging). In second group techniques, the athlete reduces non-adaptive behaviors, mediates negative thoughts and focuses on anxiety control before the competition (Watanabe, Fukuda, Hara, Meada, Ohira et al. 2006). Evidence suggest that progressive muscle relaxation can have important physiological and psychological benefits simultaneously with anxiety control (Morris, Pittle & Watt 2005). Additionally, other advantages of relaxation are its simplicity, practicality and usefulness. Many studies have examined the efficiency of relaxation techniques in the field of sport. In this regard Elion, Aziz, Rahim and Foad (2013) in a study on young soccer players concluded that relaxation is effective in reducing the anxiety of competitive position. Also, Solberg et al (2000) examined the effect of relaxation and showed that the use of relaxation methods reduce anxiety in runners and improves their performance. Fisher (2007) indicated as well that deep breathing in young tennis players is effective as a relaxation method for reducing competitive anxiety. Generally, in sport competitions the role of psychological factors is very significant. According to Field et al (2005), it can be said that muscle relaxation can reduce cortisol secretion by reducing body anxiety and sympathetic activity. Muscle relaxation through a systematic set of physiological changes reduces the oxygen consumption, heart rate, respiratory rate and blood lactate which are signs of decreasing symptoms of anxiety in the individual. So relaxation is a behavioral therapy that is simple, practical and useful which doesn't require special equipments (Alson 2013) and can be applied after a brief training (Hamidi, 2015). There are diverse relaxation techniques that include progressive muscle relaxation, guided visualization, massage, hypnosis, yoga, music therapy and respiratory techniques (Hamidi 2015).

Progressive muscle relaxation involves exercises that shrinks and then relaxes the selective ultra-group muscles until it reaches a deeper relaxation state. This process increases the blood circulation and improves the function of bloodstream to body organs and stress relief of muscle reactions is related to anxiety reduction (Dorris, 2011).

In Traga study (2014), progressive muscle relaxation along with respiratory techniques has been reported effective to reduce the amount of anxiety in athletes.

As a result, progressive muscle relaxation will bring calmness to the nerves and muscles and subsequently the brain and heart will return to the state before exercising. Therefore, the present study seeks to answer the question of whether the concentration of mind on body and mental relaxation in karate students is effective after a karate practice session or not.

Significance of the study

The performance of motor skills has always been a matter of interest since basic skills are acquired from the very beginning. Movement is one of the most fundamental factors in human life and has an important role in general development, especially mental development (Rahimi Arsanjani, 2012).

Many studies have shown that sport in addition to being a valuable tool for maintaining physical health, has a close relationship with mental health and in particular prevention of mental and psychological abnormalities (Vaez Mousavi, 1393).

Exercise and physical activity not only contribute to fitness but also play an important role in preventing diseases, especially mental illness (Rahimi Arsanjani, 1391).

The necessity and importance of exercise in general affects overall body development. Exercise is not just a simple activity, it strengthens complex brain functions in various matters such as coordination, agility, correct behaving, decision making and so on, and affects all components of the body, soul and mind. With the activity of the brain while exercising in some hours of the day, all feelings, fatigue, boredom and weakness will be resolved to a great extent. Regular exercising can be tranquilizing if it is sustained. This relief will reduce anxiety, brings passion and exercise therapy (Fox, 2011).

This research attempts to identify and determine the scientific relation, logic and the effectiveness of mind variables on the relaxation of the body and psyche. It is hoped that the findings of the research could provide a platform for athletes, experts, managers and sport organizations to use these findings to enhance and improve the health of the organization. The purpose of this study is to investigate the effect of mind concentration on the relaxation of body and mind in athletes in Gorgan.

Research Methodology

In this method, a semi-experimental research with pre-test and post-test design was used. The statistical population consisted of 20 to 40 year old men in karate major. The statistical population of this study was 30 and of these, 21 people were willing to participate in the study; they were selected and tested by General Health Questionnaire (GHQ).

Research Instrument

General Health Questionnaire:

The 28-item form of the General Health Questionnaire has the advantage of being designed for all people in the community. This questionnaire as an instrument can determine the possibility of a mental disorder in a person (this questionnaire has 4 subscales, subscale of physical symptoms, anxiety and insomnia, social failure and depression). The duration of the test is 50 minutes on average.

The scoring methodology is that from option A to D, the score zero, one, two and three is given. The test is due to answering this fundamental question: what does the test measure and to what extent does it have practicality and validity?

Williams, Goldberg and Marie (1998) quoted by Yaqubi (1995): the results show that the mean sensitivity of 28-GHQ is 82% (between 78% to 85%). In Palahang research, the sensitivity, particularity and test practicality were 88%, 74% and 80% respectively; Yaqubi and Palahng used Likert method. In a study of 223 adults, Chong and Spears (1994) quoted from Jacoby concluded that the reliability coefficient retest of GHQ-28 is 0/55 and the reliability coefficient is gained through retest from 42 to 47 percent for its sub scales. In addition, the coefficient for the overall scale was 0/88 and for the sub-scale between 0/66 to 0/88.

Procedure

After implementing the general health questionnaire as a pretest, the subjects were randomly assigned to the experimental and control group. The subjects of the group are tested. They received the test of mindfulness on relaxation as a group (with homework assignments during meetings, at home and group discussion) 8 sessions (each session lasting 90 to 120 minutes) at the gym. After completing the sessions, each group was again tested by a general questionnaire.

The content of mind consciousness sessions based on body and soul relaxation

Three Theoretical sessions

First theoretical session (The duration of the class is one hour): The first session, the topic of meditation (focusing on the mind) of hypnosis (waves: beta, alpha, theta, delta) and energy systems (transcendental body), a brief explanation for absence of mind dynamics and to recognize the of the methods functions.

Second theoretical session (The duration of the class is one hour): the second session includes the topic of self-conscious mind and how to enter it, conditions of attending this mental space, mental training and the progressive relaxation theory training, which runs rapidly from the lower legs up to the head. But it is according to a specific standard which I define in class, teaching hypogastric breathing and visualization.

Third theoretical session (The duration of the class is one hour): the third session includes the topic of unconscious mind and how to enter it, conditions of attending this mental space, mental training and the progressive relaxation theory training, which runs rapidly from the lower legs up to the head. But it is according to a specific standard which I define in class, teaching hypogastric breathing and visualization.

Practical session

The first practical session (the duration of the class is one hour): At the first session, the topic of progressive relaxation muscles from the lower body to the top of the body is practically implemented. In addition, hypogastric breathing and visualization by means of mental regulation (the master organizes and regulates the mental structure).

The second practical session (the duration of the class is one hour): At the second session, the topic of progressive relaxation muscles from the lower body to the top of the body is practically implemented. In addition to hypogastric breathing, visualization and mental relaxation (the master cleans up the negative thoughts and images from mental structure.)

The third practical session (the duration of the class is one hour): The third session involves the subject of progressive muscle relaxation, along with hypogastric breathing, mind visualization, the creation of conscious mind space, the entering and exit, attending this mental space and identifying the negative and positive factors inside it.

The fourth practical session (the duration of the class is one hour): The fourth session involves the subject of progressive muscle relaxation, along with hypogastric breathing, mind visualization, the creation of conscious mind space, the entering and exit, attending this mental space and identifying the negative and positive factors inside it.

The fifth practical session: The fifth session involves the discussion of progressive muscle relaxation with hypogastric breathing and mind visualization, entering the space of conscious and subconscious mind, and then visualizing the transcendental body, finally calming all these spaces.

Research Analysis

In analyzing the data, considering the fact that in this distribution, the pre-test-post-test with control group was used and considering the normal distribution of the scores and homogeneity of variances, the covariance analysis was used and the data was analyzed using SPSS software.

In this section, the data regarding the demographic characteristics of respondents are analyzed by drawing the averages tables.

Table 1: Frequency distribution of athletes according to marital status

Marital status	Frequency	Percentage
Single	10	47.5
Married	11	52.5
Total	21	100

As the table shows, nearly half of athletes are single and the other half is married.

Diagram 1: Frequency distribution of athletes in terms of marital status

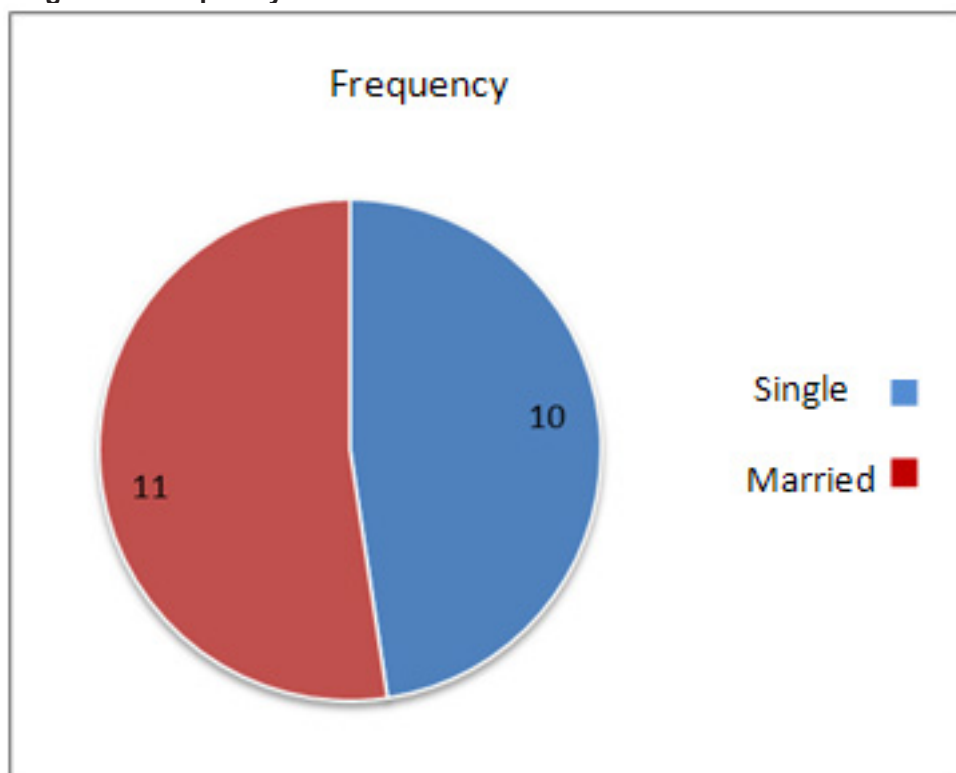
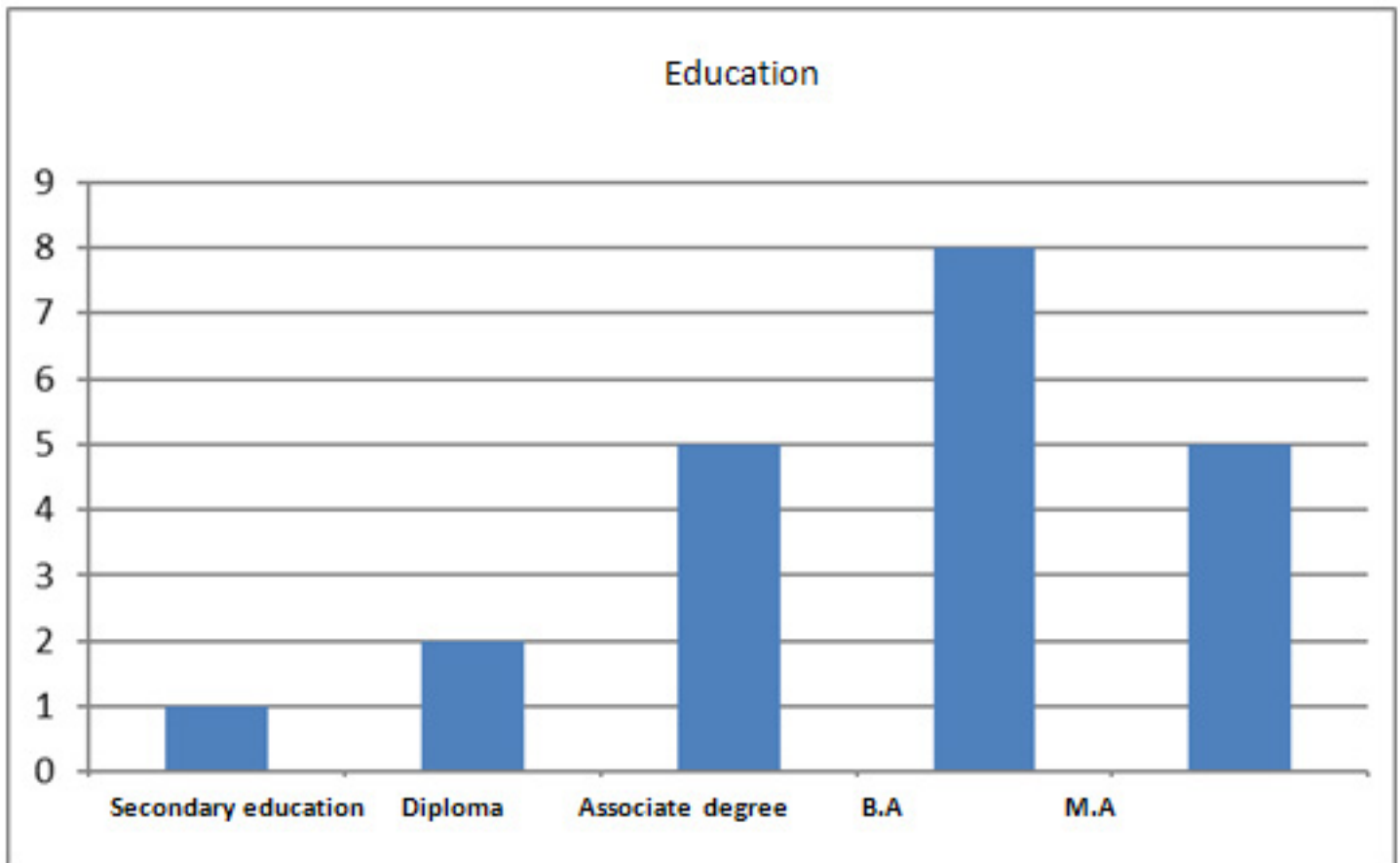


Table 2: Frequency distribution of athletes in terms of educational level

Education level	Frequency	Percentage
Secondary education	1	4.7
Diploma	2	9.5
Associate degree	5	23.8
Bachelor of Art	8	30
Master of Art	5	24
total	21	100

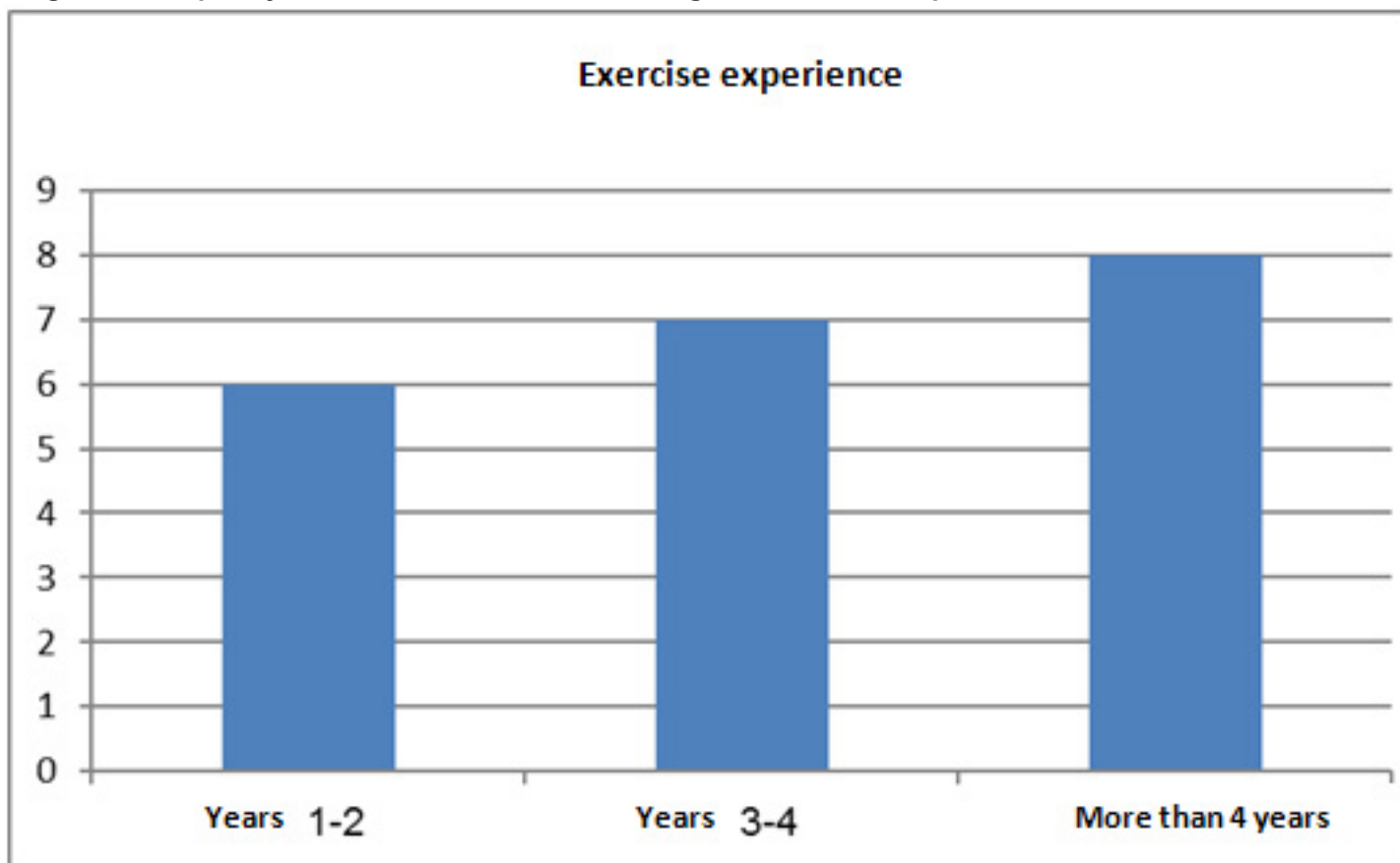
According to the table, 30% of sample size have bachelor degree and 24% have master degree. The other results are shown in diagram 2.

Diagram 2: Frequency distribution of athletes in terms of marital status**Table 3: Frequency distribution of athletes according to the exercise experience**

Exercise Experience	Frequency	Percentage
1-2 Years	6	28.5
3-4 Years	7	33.5
More than 4 years	8	30
Total	21	100

The obtained data shows that 33% of athletes have 3-4 years of exercise experience. Other results are shown in diagram 3.

Diagram 3: Frequency distribution of athletes according to the exercise experience



Data Normality test

The assumption of the data normality at the significance level of 5% was tested with the Kolmogorov-Smirnov technique. The results are presented in Table 4. As shown in the table, a meaningful value greater than 0.05 is obtained. Therefore, there is no reason to reject the zero hypothesis based on data normalization. In other words, the data is normal.

Table 4: Results of the Kolmogorov-Smirnov test

Effect of mind concentration	
3.63	Mean
0.82	Standard deviation
1.21	Kolmogorov statistic
0.10	Significance level

At this stage, the inferential statistics of the data analysis are presented in the form of the following tables.

Table 5: The mean of pre-test and post-test in athletes

Standard deviation	Mean	Number	Test
0.26	3.2	21	Total DHS of pre-test
0.10	3.7	21	Total DHS of post-test

According to Table 5 the mean of pre-test and post-test in total indicates the athlete’s tested factors.

Table 6: ANOVA test results for athletes

Significance level	Frequency	Mean of squares	Degrees of freedom	Sum of squares	Variable Index
		3.07	1	3.0711	Between group
0.000	77/05	0.03	40	1.5943	Within group
		-	41	4.653	Total

A look at the results presented in Table 6 shows that the observed F (77.05) resulting from the multivariate analysis of variance analysis on the two groups of pre-test and post-test scores in athletes was statistically significant. According to the critical value, it is significant ($p < 0.05$). It can be perceived that the assumption H_0 is rejected and the H_1 assumption is accepted. It can be concluded that at confidence level of 99%, there is a positive and significant relationship between mind consciousness and karate athletes. This means that mental visualization can have an effect on conscious and subconscious mind.

Discussion and Conclusion

The purpose of this study was to investigate the effect of mind concentration on body and soul relaxation in karate sports students, to analyze and explain the state of mind concentration, to gain scientific and realistic insight into the achievement of information in this field.

The results showed that the mind concentration group significantly relaxed body and soul in athletes. The findings of this research are based on the research carried out in Iran and abroad, Mardani and Shahraki (1393), Besharat and Sharghi (1394), Besharat (1395), Rahgozar and Taheri (1395), Casten and Winch (2011), Pathy and Safford (2013), Lavy (2015).

Sports experts believe that mental exercises are as effective as physical exercises in increasing the success of athletes in various sports. By examining the reasons behind the success of professional athletes like Bruce Lee, Andy Hooke, Masutatsu Oyama... It is clear that one of the ways of this success is their ability to visualize. Visualization and mental imagery can be influential in the various aspects of human life. Mental visualization can have an effect on conscious and subconscious mind.

It can be stated that physical activity or exercise stimulates the muscles and increases the activity of body organs. Also the brain and mind of man are not excluded. With brain activity during exercise, all imaginations, fatigue, impatience and weakness will be significantly reduced. Regular sports activities, if continued, can make the mind more relaxed, and this relief makes learning easier and more willing to work. Exercise, in addition to being a valuable tool for physical health, has a close relationship with mental health and, in particular, the prevention of psychological abnormalities. Exercise reduces anxiety and depression, increases self-confidence and enhances self-esteem. In the course of intense exercise, the level of endorphins secretion increases, which is why athletes

feel pleasure and relax afterward. In this technique, the athlete feels in a challenging situation that may be stressful. In this case, he can predict possible happenings and practice for success, with the assumption that he can successfully overcome such difficult and challenging conditions. Positive thinking can change mood and cause mental readiness before a match. Therefore, one of the success keys in successful athletes is the use of mental exercises to achieve relaxation for the proper use of their mental capacities, which can be easily accomplished through comfort and repose arts and by gaining mastery, physical, emotional and mental relaxation can be achieved. Athletes, who learned mind concentration, were able to perform their athletic skills and karate arts better during training. Their sleep disorders have improved, according to karate students and athletes' declaration. The recovery and returning body to the original state were better done by using mental practices. Anxiety and stress resulting from exercise and athletic tournaments were dramatically reduced by mental exercises.

Suggestions

1. It is suggested that this research be carried out on all sport fields.
2. It is suggested that the effect of mental exercises prior to the onset of exercise on athletes' readiness will be studied during the exercise.

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