

TECHNIQUES AND METHODS OF MENTAL TRAINING FOR HIGH-LEVEL ATHLETES

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Abstract:

This study aims to explore the techniques and methods of mental training used by high-level athletes. Mental training is a modern approach that helps athletes acquire motor skills, enhance their ability to perform them consistently and develop them further. It also enables athletes to implement these skills during competitions and achieve high-level athletic achievements. These achievements require significant use of psychological and mental skills, such as concentration, attention, perception, mental imagery, and relaxation. These skills are essential for decision-making during performance, and therefore, they should be emphasized throughout the preparation and training process to help athletes reach high levels of performance.

Keywords: Techniques and methods, mental training, high-level athletes.

Introduction

Mental training is a strategy within sports training technologies that has attracted the attention of many specialists in the field due to its positive and effective role in developing performance levels. This is especially true since mental and psychological skills have become increasingly important in improving performance. The ability to perform mental training is an important variable that affects performance. It is used to visualize performance and mentally review the skill, which includes eliminating errors by visualizing the correct performance technique. Most people who have a clear understanding of the key aspects of a skill can, through mental training, compare their responses to the optimal performance and then correct incorrect responses. Mental training is also linked to controlling and managing thoughts and physical movements, organizing motor behavior, and using positive phrases and thoughts and appropriate models to help with regular mental training and the compatibility between mental training and the following skill learning.

First: The Concept of Mental Training

Increased interest in mental training and its dimensions has led to the conclusion that impulses from visual, auditory, and sensory receptors enter specific parts of the brain. The information from these multiple receptors is used with feedback to enhance the completion of the image. It is believed that there is an integrated center in the central nervous system that receives all sensory stimuli, evaluates them, strengthens them, and sends them to the appropriate areas of the brain to generate the necessary response. The mental images formed during mental training are believed to cause certain physiological responses. Thinking processes cause contractions in the muscles used to produce the imagined movement. Physical performance involves degrees of association with mental activity. The effect of mental training is due to the nervous system's ability to record motor and sensory patterns and its ability to remember and reorganize images. Therefore, mental training can lead to the same changes in the central nervous system as those resulting from physical performance.

Mental training has four concepts related to its effectiveness:

1. Motivation
2. Symbolic Cognition
3. Neural Units Shared in Performance
4. The Physiological Theory

These concepts have provided many topics related to mental training (Shamoun, *Mental Training in the Sports Field*, 1996, pp. 20-32).

Shamoun emphasized that mental training plays an important role in the learning process. When mental imagery is done correctly, it reinforces the neural pathway that helps with correct performance the next time. This causes an excitation of the involved muscles, which leads to a mild neural excitation that is sufficient to produce sensory feedback that can be used to correct the skill when trying to perform it in the following times (Shamoun and Abdul Nabi, *Mental Training in Tennis*, 1996, p. 33).

Nizar Al-Talib also identified the specifications of mental training in motor learning as follows: (Al-Talib, 1976, p. 56)

1. Mental training should not replace motor training in learning motor skills but should complement it.
2. Mental training helps to learn new skills and improve old skills.
3. In most cases, mental training will be associated with muscle excitation that may help to master the skill in question.

Second: Objectives of Mental Training

Mental training aims at the following (Shamoun and Abdul Nabi, *Mental Training in Tennis*, 1996, p. 33):

- Increasing the type of ideal performance by developing and improving the associated mental skills.
- Increasing the ability to repeat, fix, and control ideal performance.
- Removing obstacles to overall performance development.
- Eliminating the causes associated with the deterioration of performance levels.
- Developing the type and system of training.
- Developing the ability to recover from training periods.
- Developing mental skills and preparing for competitions.
- Developing and nurturing personality.
- Promoting general health.

Third: Benefits of Using Mental Training

The benefits of mental (intellectual) training can be summarized as follows (Hamad, 2012, p. 362):

- It gives and increases the athlete's self-confidence.
- It teaches the athlete to relax.
- It shows the athlete's previously unknown motor programs.
- It sets a correct program and visualization for the movement or skill.
- Developing a playing strategy.
- Improving the athlete's focus on their emotions.
- Stimulates the muscle endings and ligaments to work in a motorway, as if the movement has been done.
- A good complementary possibility for technical training in the absence of actual training (rainy weather).

Fourth: Conditions for Mental Training

There are several conditions for the success of the mental training process, including (Shamoun and Abdul Nabi, *Mental Training in Tennis*, 1996, pp. 34-36) (Rateb, 1995, pp. 357-359):

1. Previous Experience:

Previous experience is one of the most important dimensions necessary for mental training to have an effective impact. The first to point out the effect of previous experience on the effectiveness of mental training was Jackson (1930). Cooper (1967) and Phillips (1968) also pointed out the importance of previous experience in the effectiveness of mental training. Muscular activity is at its highest when mental training is based on previous experience.

2. Intelligence:

Competitive sports levels require a high level of intelligence. Perry (1980) emphasized that mental training is more beneficial for players with high intelligence.

3. Physical Fitness Level:

Having a level of fitness is important for achieving a better return on mental training. A player with high muscle capacity benefits more from mental training than a player with limited muscle capacity.

4. Regularity of Training:

Regularity in mental training helps develop performance and contributes to achieving the desired goals for the player and coach. The continuity of training periods contributes to increasing the effectiveness of mental training.

5. Training Environment:

Mental training should, as much as possible, be in the same surrounding conditions of tools and equipment so that all dimensions can be completed in the motor imagery when recalling in mental training.

6. Correct Performance:

It is important to focus only on correct performance. Imagining correct performance deepens the relationship between stimulus and response, thus supporting performance and emphasizing the use of unsuccessful performance imagery. Negative mental imagery increases the tendency to make the same mistakes.

7. Performance Style:

Mental training should take place in the context of skill performance. It is important that the student or group becomes fully familiar with the competition area before performance, and focuses on the different dimensions and important symbols. If this recognition is not developed, then this mental training will not, as expected, become part of the performance. It is important to focus on the performance style of the skills and the technical aspects associated with them.

8. Required Skill:

The skill to be developed should be performed completely and fully as it happens in natural conditions to achieve a total awareness of the performance. This is because visualizing only one part of the total movement often causes errors between the parts that were visualized and those that are required to be performed. This is because the remaining part has not been mentally prepared beforehand, which harms the performance level.

9. Kinesthetic Perception:

Kinesthetic perception should be emphasized in mental training as it contributes to the creation of stimuli that control movement.

10. Movement Rhythm:

Mental training should be at the same speed and movement rhythm as the skill to be developed. Visualizing a motor skill without focusing on the required speed of performance does not contribute to its development. Fuigita (1980) explains that when a particular skill is performed under different speed conditions, there is a difference in the neural patterns involved in the performance. These differences are attributed to the difference in the speed of motor imagery. This means that if mental training is generally at a slower speed than the normal skill speed, the neural patterns resulting from this training will not produce the desired movement and there will be a competition between the neural patterns, resulting in errors in motor performance.

11. Mental Training Immediately Before Performance:

It is recommended that there be at least one mental training session before motor performance. The number of repetitions cannot be determined and is still under study. It depends on the player himself, who sees it as necessary with the guidance of some instructions:

- ✓ Stopping when you feel the need to do so.
- ✓ Knowing what needs to be done and doing it to get the best results.
- ✓ Self-confidence to determine the required number of repetitions.

Barago (1980) pointed out that the duration of mental training performed by high-level players is longer than that of lower-level players before participating in competitions.

12. Positive attitude:

The player must be fully convinced of the importance of mental training in developing mental skills and expect positive results from applying mental training programs. This conviction, or a positive attitude towards mental training in general, is one of the important conditions for achieving the effectiveness of mental training (Shamoun, *Mental Training in the Sports Field*, 1996, p. 36).

Fifth: Stages of Mental Training:

Mental training is divided into three stages (Bundzen, 1992, p. 22):

1. Mental Relaxation Course:

This course aims to learn mental and muscular relaxation, which is the cornerstone of the process of controlling mental training.

2. Training on Mental Methods Stage:

This internship aims to teach alternative systems of self-control and self-direction, and methods of mental imagery.

3. Mental Strength Training Course:

This internship aims to integrate the mental skills learned in the first two internships and apply them in areas such as concentration, attitudes, moods, and realism (Bundzen,1992,p.23).

Sixth: Requirements of Mental Training:

There are several main requirements for conducting mental training, which the player and individual must adhere to. These requirements can be divided into two categories (Hardy, Lew,& ET AL,1990,p.91):

A. General Requirements:

1. Complete relaxation without effort.
2. Not using any force or tension in the body.
3. Isolating external thoughts.
4. Giving the mind a chance to clear up.

B. Specific Requirements (During Training):

1. A quiet environment.
2. Wearing comfortable clothing.
3. Removing any obstacles from the body.
4. Using the appropriate time and place.

Seventh: Content of Mental Training:

Gurom (1984,p.165) believes that the content of mental training includes:

1. Good relaxation training.
2. Concentration training.
3. Mental motor imagery.
4. Retrieving successful experiences.
5. Insulation training.
6. Identifying the player's emotional state.

Eighth: Steps of Mental Training:

To acquire the skill of visualization and mental training, the following steps must be followed:

First: Learning Relaxation:

Relaxation is a temporary and deliberate withdrawal from activity that allows for recharging and full utilization of physical, mental, and emotional energies.

Relaxation is characterized by the absence of activity and tension. It is a period of calmness and disregard for the senses. Relaxation and tension occur in degrees of communication, and with training, it is possible to identify any point in this communication and correct any wrong point that stops it from happening. Learning different skills is enhanced when the learner is in a state of relaxation. There is an alternation between learning and relaxation, and sports training should include relaxation skills regularly, like any other sports skill. Once the learner can acquire relaxation skills, they begin their training session with short relaxation periods to get rid of all unwanted nerve fluids, so that they can focus on their training and thus be of good quality (Shamoun, *Mental Training in the Sports Field*, 1996, p.37).

The alternation between performance and the ability to relax is the focus of learning. It is noted that many athletes fail to achieve their best levels during competition due to the nervous tension and anxiety that accompanies important competitions, which leads to the contraction of all the muscles in the body instead of only the muscles involved in performing the skill (Rateb, 1995, p. 275).

Rateb (1995) and Shamoun (1996) agree on dividing relaxation into two types (Shamoun, *Mental Training in the Sports Field*, 1996, p. 373):

A. Muscular Relaxation:

The learner trains on relaxation by focusing on a muscle group tries to tense it and then relax it, and then moves on to another muscle group. This type of relaxation is the best to use in the learning stages, as it includes methods of various types but they agree on the goal and differ in the means that lead to this state. Muscular relaxation is divided into:

1. **Analytical Relaxation:** This type relates to changing the environment to one that is characterized by comfort and calmness.
2. **Autogenic Relaxation:** This is done by training the relaxation of muscle groups in the body with an emphasis on slow, calm breathing.
3. **Sequential Relaxation:** This is the succession of contractions from one muscle group to another until all muscle groups in the body are covered.
4. **Biofeedback Relaxation:** This is one of the most effective methods in learning self-regulation, as it provides the individual with biological information about the functions of the physiological systems. Through the help of this information, the individual becomes able to learn self-regulation of these physiological systems. The reason for using sensory devices is that many of these vital functions are under the control of the nervous system and most individuals cannot feel what is going on inside them without external help.

B. Mental Relaxation:

Mental relaxation helps to reduce muscle tension and thus contributes to the preservation of mental tension, as simply focusing on relaxation isolates the brain from other stimuli. There is a focus on the muscles and there is also mental relaxation. Here, the focus will be on a specific point and thinking about it and directing thinking in the direction that the individual wants. At the beginning of mental relaxation training, the individual tries to relax at the beginning of training or exercise to get rid of the excess arousal in the brain that is not related to the skills that need to be thought about.

Mental relaxation is divided into (Shamoun, *Mental Training in the Sports Field*, 1996, p. 38):

1. Relaxation Response:

This aims to achieve a mental state characterized by full awareness, effortlessness, automatic relaxation, and focused attention.

2. Breathing Control:

Breathing control is one of the most effective methods of controlling stress and anxiety. Breathing patterns differ when the player is calm and relaxed compared to when they are anxious and nervous.

When they are calm, their breathing is deep, but when they are under pressure and stress, their breathing is short and irregular.

3. Cognitive Relaxation:

When negative thoughts arise in an individual, they can stop these thoughts by distracting the flow of negative motivation and replacing it with constructive thinking. This method does not work well (Shamoun, *Mental Training in the Sports Field*, 1996, p. 182).

Second: Mental Imagery:

After training in muscular and mental relaxation comes mental imagery (mental) or mental review, which is an attempt to recall past events or experiences or to build new images with a new event (Yaarab Khayoul, 2002, pp. 128-189).

Conclusion:

Mental training is an essential part of preparing a player to enter competitions. It includes visualizing the movement and its sequence, the situations and goals, and all dimensions of the competition, including referees, the field, tools, and equipment. The player must have the ability to apply the plans set and analyze the opponent's performance. Sports achievements require a certain amount of mental use and decision-making. For the player to be able to do this, it is necessary to

develop their mental abilities. Therefore, mental training is an important part of sports training. Its importance is not limited to its use in sports competitions, but it can also be used in the field of movement in general, especially in the stages of skill acquisition. It plays an important role in the learning process, which is no less important than preparation for competitions. It also works to increase the ability to predict and provide an opportunity to perform in future events. It also contributes to the development of the skill level, because when the player visualizes correctly, it works to strengthen the neural pathway that helps in the correct performance (Shamoun, *Mental Training in the Sports Field*, 1996, pp. 30-31).

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