

### Introduction

Arousal is the key issue in sport psychology. Specifically, physical and technical performance depends on the level of performer's arousal. However, arousal is determined by psychological processes such as emotions, which, in turn, depend on higher cognitive functions like thoughts.

In sport setting, arousal is often linked to anxiety. Anxiety is a negative emotional state with feelings of worry, nervousness and apprehension that is associated with the arousal and activation of the nervous system. In general, arousal has two kinds of effects on performance. First, it increases muscle tension and affects co-ordination. Too much tension is detrimental to performance. Second, arousal affects attention. Therefore, attention can become either too narrow with too much arousal, or too broad with too little arousal which makes person to pay too much attention to his/her environment.

The following are the three theories which help us to understand the relationship of arousal caused by the psychological factors such as stress, anxiety, aggression, fear and tension.

- **Drive Theory**
- **Inverted U Hypothesis**
- **Individual Zone of Optimal Functioning**

1) **Drive Theory:** Drive theory states that the more arousal and anxiety an individual

experiences, the higher their performance will be.

2) **Inverted U Hypothesis:** This theory posits that there is a medium amount of arousal and anxiety that causes one to perform higher - too little anxiety/arousal and too much anxiety/arousal will cause performance to be poorer.

3) **Individual Zones of Optimal Functioning:** This theory takes into account that people have different levels of anxiety and arousal that are unique in making them perform at their best. Some people perform their best with low anxiety, some with a medium amount and others with a high amount. The amount of anxiety/arousal that an individual requires to perform their best is based on individual characteristics.

### Arousal Regulation Techniques

- Progressive relaxation techniques
- Autogenic training
- Biofeedback training
- Meditation techniques

Progressive relaxation technique is a technique of systematically tensing and releasing of muscles, in order to create whole body relaxation. By consciously letting go of tension from our bodies and creating an environment which is peaceful and quiet, our bodies go from an activated mode into a deactivated one. The technique was developed by Dr. Edmund Jacobson in the 1930's and described in his book *Progressive Relaxation*. This technique is a muscle relaxation technique

and can relax the body within minutes. However, at the beginning it takes practice to learn to release the muscles. Once body knows how to tense and then relax muscles, we can relieve tension and stress on the spot.

Progressive relaxation is based on a fact that complete physical relaxation is the absence of tension. If we are completely relaxed it is impossible to be tense and anxious. Progressive relaxation can help us achieve a state of profound physical relaxation by soothing the chronic muscle tension that keeps the sympathetic nervous system in overdrive. There are four stages in progressive relaxation technique:

- Awareness of tension - by concentrating on an area of our body, we learn to recognize tension.
- Tensing the muscles
- Letting go of the tensing
- Awareness of relaxation - we concentrate on the particular area of our body, and we learn to recognize the feeling of relaxation.
- The best position for practicing progressive relaxation technique is lying down. Some people use this technique just before falling asleep, but we can use it at anytime of the day.

#### **Autogenic Relaxation Technique**

Autogenic means self-regulation or self-generation. It means that the power for achieving relaxation is all within us. During autogenic relaxation we will relax our muscles deeply. By relaxing our muscles, our mind automatically follows. And we find our self experiencing deep relaxation.

#### **Autogenic Relaxation in Simple Steps**

To practice this relaxation technique we need to find a quiet place. While seated in a comfortable position we repeat a particular autogenic phrase to our self. At the beginning, we do this for a few minutes at a time, several times a day. Gradually, we increase the time until we practice 20 minutes twice a day.

There are six parts to autogenic training, each focuses on a different part of the body and different sensation:

- heaviness in the extremities - "my arms and legs are heavy"
- warmth in the extremities - "my arms and legs are warm"
- heartbeat - "my heart is calm and regular"
- breathing - "my breathing is calm and regular"
- warmth in the solar plexus - "my solar plexus is warm"
- forehead - "my forehead is cool"

#### **Biofeedback Training**

Biofeedback is a method of measuring physiological functions we are not normally aware of (such as skin temperature, muscle tension, or brain waves) and then training ourself to control these functions.

- Depending on what particular physiological function we are working with, different techniques are used.
- The most common biofeedback techniques are:
  - Temperature biofeedback
  - EMG biofeedback
  - EEG biofeedback
  - Galvanic Skin Response

• With biofeedback we are in control. No needles and no medications. we learn to *listen and talk to our body* and make our nervous system an ally in our healing process

#### Meditation

- Meditation is a verb. It is doing. It is a practice of concentration. We may concentrate on our breath, a sound, object, visualization, movement, or sensations in the body. The goal of meditation is to increase the sense of well-being, reduce stress, activate the relaxation response, and enhance personal and spiritual growth.
- "Meditation is a way of being. Meditation is not about trying to get anywhere else. It is about allowing yourself to be exactly where we are and as we are, and the world to be exactly as it is in this moment, as well." John Kabat-Zinn
- We will understand what meditation is once we experience it. Here is a short exercise that will show we what is meditation.
- Find a quiet spot where we will not be disturbed.

#### References:

- Anderson, K. J., Revelle, W., & Lynch, M. J. (1989). Caffeine, impulsivity, and memory scanning: A comparison of two explanations for the Yerkes-Dodson Effect. *Motivation and Emotion*, 13, 1-20.
- Broadhurst, P. L. (1957). Emotionality and the Yerkes-Dodson law. *Journal of Experimental Psychology*, 54, 345-352.
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- Sit in a chair with our back straight, shoulders relaxed, feet flat on the floor.
- Close our eyes and turn our attention to our breath.
- Notice how the breath moves. Just observe our breath.
- Feel how our abdomen (or our chest) is rising and falling with each breath.
- Just observe. Don't force anything.
- Focus on the feeling of our breath - our body rising and falling with each breath.
- Continue for 5 minutes.
- Congratulations! We now know what is meditation and how to meditate.

#### Conclusion:

As per above description it can be concluded that level of arousal effect the performance of athlete in different manners. We can control arousal in sports by different technique like Progressive relaxation techniques, Autogenic training Biofeedback training and Meditation techniques