Chapter-I

INTRODUCTION

The importance of sports has been recognized at national and international level by all the countries of the world. Today sports is considered as an international discipline because it develops international understanding and universal brotherhood. Sports is also one of the factors contributing to the development of character. Physical Education and sports should form an integral part of life long education in the overall educational system and their promotion from pre school age to old age and should be treated as one of the fundamental rights. Sports Education scores as a medium for men’s total education, emotional and intellectual development using experience centered movement. Hence, the promotion of sports is the moral and social responsibility of each nation.

Sport is one of the most widespread human activities - whether done by professionals or amateurs regularly or just occasionally - millions of people do sport. Besides being good for the health, it has a significant economic and social role: it purports social integration and inspires cultural exchanges.

Due to the intense development of medicine and technology, the athletes have become capable of reaching their higher levels of performance. Good quality gear, surrounding support, and the help of the trainer is not always everything. Athletes having the same
performance on trainings are decided to win the competitions based on who is capable of mobilizing more psychic energy during the performance. While previously it was the physic condition that had the primary importance, today—and in the future—psychic preparations will have the leading role. Many times it is hundredth of a second or tenth points depend on how the athletes are prepared mentally, and how they can cover the obstacles of the competition.

Every kind of sports has its own special psychological problem and its own psychological profile, psychological typology of the branches of sports have been made earlier, only based on categorizing the field of sports.

**Typology of sports**:

Typology means grouping or categories of the games based on the nature of the game and their characteristic demand. The first typology of sports was constructed by Kodym in 1967; Nagy 1973.

<table>
<thead>
<tr>
<th>Type of sports</th>
<th>Demands</th>
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</thead>
<tbody>
<tr>
<td>1. Sensomotoric sports:</td>
<td>• Sensomotoring co-ordination</td>
</tr>
<tr>
<td>(Shooting, Bowling, Archery)</td>
<td>• Sense of balance</td>
</tr>
<tr>
<td></td>
<td>• The scale and length of focus</td>
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<tr>
<td>2. Functionally moving sports:</td>
<td>• Stamina</td>
</tr>
<tr>
<td>(Athletics, Swimming, Weight Lifting)</td>
<td>• Voluntary control</td>
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<td></td>
<td>• Physical and Psychic fitness</td>
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<tr>
<td>3. Aesthetically coordinating sports:</td>
<td>• Aesthetically sensitivity</td>
</tr>
<tr>
<td>(Gymnastics, Horsemanship, Figure skating)</td>
<td>• Self control/discipline</td>
</tr>
<tr>
<td></td>
<td>• Bodily coordination</td>
</tr>
<tr>
<td>Type of sports</td>
<td>Demands</td>
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<td>----------------------------------------</td>
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</table>
| Moral – volitional sports: (Motorcycling, Flying, Sailing) | • Bravery  
• Audacity  
• Overcoming emotional factors |
| Self-anticipation sports: (Boxing, Judo, Wrestling, Fencing, Tennis, Chess) | • Accuracy  
• Quick understanding of situations  
• Trying to get ahead of the opponents intention |
| Communal anticipation sports: (Hand ball, Football, Basketball) | • Watching teammates  
• Trying to get ahead of the opponent |

A new field of studies thus has emerged, to provide the athletes with proper mental training. Sport psychology studies the effect of the psychic functions constituting the whole personality and its effect on the performance. Its basic aim is thus to increase performance with the instruments of psychology. (Nagykaldi, 1998.)

In our country the various fields of sports have recently recognized the importance of sport psychology. Interest has grown towards techniques of raising performance and reducing stress, and methods that help early selection.

Many team and individual sports are being pursued by professionals, amateurs and hobby sportsmen. This is too wide a range of study, so the research is narrowed down to the Olympic events, and in this field one chose a special kind of shooting: static, standing position shooting. One chose shooting, because one can be interested in what kind of personality characteristics do these athletes have for
competing in a field both physically and psychically: what makes an athlete to succeed in this field of sports.

**An Overview of Shooting Sport:**

A traditional sport, shooting has come a long way in India, from just being confined to the maharajas of the erstwhile princely states of the country, to a sport that has gained immense popularity amongst the young sports enthusiasts. Veteran shooters including Abhinav Bindra, Major Rajyavardhan Singh Rathore, Anjali Bhagwat and other prominent shooters have brought laurels to the country, thus contributing to the upliftment of the game. Primarily used for military training, the game requires great concentration skills, in order to acquire precision while shooting the target.

A major component of success in shooting is psychological parameter, compounded with physical and physiological factors. Generally, it is important to have a great balance and coordination to be a good shooter, but shooter should have to be flexible to get the body into the correct positions comfortably. It is also important to be agile and quick. Muscle strength and endurance is also very important for holding the gun up and moving with control.

Shooting belongs to sensomotoric type with a specific set of psychological requirements. Characteristic vulnerability of shooting performance lies with the most common psychological behaviors -
anxiety and self-confidence. Anxiety and self-confidence affect the following psychological grounds of the sports shooter:

1. Sensomotoric co-ordination
2. Sense of balance
3. Scale and length of focus.

Shooting is a static sport in which the anxiety is different from the rest of the sports. Tests have shown that a reduced state of stimulation through the activation of factors important for blood circulation has a more favorable effect on sensor motor skills, attentiveness and the processing of experience than vegetative relaxation or stress hormone catalyses (catecholamine) that increase the output of the adrenal medulla hormones, adrenaline and noradrenalin.

Sport shooting mainly involve attentional control strategies. Concentration being the ability to focus all one’s attention on the task at hand plays the basic role. For physicians and their athletes, concentration is to direct all attention to the recovery process. When athletes experience anxiety, however, maintaining attention on the task at hand becomes more difficult. Concentration also becomes narrower and internally directed toward worry, self-doubt, and other task-irrelevant thoughts.
Anxiety and its Role in Sports:

Many situations create anxiety, either in work, sport, or life in general, resulting in uneasy feelings of apprehension and tension. Although anxiety affects individuals differently, a high degree of anxiety can do more harm than good to performance on complex tasks (Martens, 1977). Under the influence of anxiety, the ability to perform a task well seems to diminish, attention and concentration are frequently distracted, and individuals lose their ability to perform to their potential. High levels of anxiety usually inhibit performance, even in a very skilled person. This is true in sport performance and explains why anxiety is one of the most widely researched topics in sport psychology (Bunker & Williams, 1986).

Anxiety has been divided into two broad categories: trait anxiety and state anxiety. Trait anxiety could be defined as a feature of personality. It is a relatively stable predisposition to perceive many situations as threatening and to respond to these situations with increased state anxiety (Speilberger, 1972). State anxiety is defined as an immediate emotional state that is characterised by apprehension, fear, and tension (Spielberger, 1972). According to Davidson and Schwartz (1976), state anxiety is multidimensional, consisting of at least two components, cognitive and somatic anxiety. Cognitive anxiety is characterized by negative expectations, worry, lack of concentration, and disrupted attention, whereas somatic anxiety refers to the
perception of physical symptoms such as tense muscles, "butterflies" in the stomach, raised heart rate, and rapid, shallow breathing.

Anxiety plays a paramount role in sports. It is the challenge in sports participation, which produces anxiety. How an athlete handle, the anxiety determines how successful he would be. Anxiety may be a positive motivating force or it may interfere with successfull performances in sports events. The degree of anxiety also vanes with a number of different conditions, Anxiety is likely to be greater, rougher competitive sports than in relatively non-competitive sports, because the competitive sports, participants are expected to win and great demands are made upon them to succeed.

The study of the effect of anxiety on sports performance has become a major topic of interest to sports psychologists in recent years. The degree of perceived anxiety is an important variable to be considered in the performance of an individual. Research has shown that anxiety is present in all of us, including athletes, in varying degrees. But in the field of sports certain, competitive situations naturally produce more anxiety than others. Sometimes, anxiety may be helpful, in tasks that require strength or power. But in some other events, a high level of anxiety may be detrimental. It is usually assumed that individuals falling at the extremes of an anxiety scale will not perform well. Several researches including Singer (1972) and Tutko (1977) have found supporting evidence for the inverted U-hypothesis,
measuring the effect of anxiety on the performance of athletic teams as well as sportsmen.

Several researchers, including Singer (1980) have examined the relationship between anxiety and learning. The relationship can be illustrated by the inverted U-hypothesis, which states that performance improves with increasing levels of arousal (anxiety) to an optimum point where upon further increases in arousal (anxiety) cause performance impairment”. Tutko (1971) obtained supporting evidence for the inverted U-hypothesis in his research measuring the effect of anxiety on the performance of athletic teams. His results showed that the level of anxiety felt by an athlete determined the extent to which he learned. For example, the athlete who was not anxious about the upcoming athletic competition paid less attention to the information given by the coaching staff. On the other hand, the athlete who was concerned about an approaching competition became excessively anxious, this also interfered with learning. Tutko suggested that the athlete, who could maintain a moderate level of anxiety, would be the most efficient performer. Hence, the major reason for the interest of coaches and sports participants in an anxiety state is to understand how it affects sports performance.

Competitive trait anxiety is a situation, which is specific modification of the trait anxiety construct developed by Spielberger (1966). Competitive trait anxiety is defined as a tendency to perceive
competitive situations as threatening and to respond these situations, with feelings of apprehensions or tensions. According to Spielberger, fear of failure and fear of physical harm appear to be the most prevalent determinants of A-state in competitive sport. The competitive A-trait construct is important in understanding behavior in sports specifically understanding which competitive situations are perceived as threatening and how players and athletes respond to this trait. It is assumed that competitive A-trait would be an important mediator in the competitive situation, but not in a non-competitive situation. In a non-competitive situation, no difference is expected in A-state between low and high competitive A-trait persons, but in a competitive situation, high competitive A-trait persons will manifest higher levels of A-state than low competitive A-trait persons.

The little evidence, which is available, shows some relationship between anxiety and sport performance, especially between A-state and performance. Many sports experts believe that a little A-state is helpful as it prepares the athletes for competition but too much A-state is thought to be harmful for peak performance. It means that performance improves as A-state or arousal increases up to some optimal point, but subsequently, additional increases in A-state are detrimental to performance.

A number of research efforts have been directed recently at showing a relationship between competitive trait anxiety and state
anxiety. Similar work has also been completed showing the effects of success/failure on both pre-and post-game state anxiety levels. These studies provide data concerning factors related to inducing stress in competitive sports. It has been found that individuals differ in their tendencies to exhibit high levels of A-state in sports, which means that athletes differ in competition A-trait and those differences in A-trait will result in persons showing different levels of A-state in the same competitive situations. Thus a specific competitive environment may be optimal for one person but not for another. Moreover, the optimal levels of A-state for one sport may not necessarily be the optimal level for another sports to achieve superior performance. According to Oxendine (1970), football blocking and tackling as well as weightlifting require extremely high A-state, whereas basketball, boxing and soccer require moderate A-state. One the other hand, archery, bowling and gold require low A-state for optimal performance.

Individual differences in competitive trait anxiety assessed by the Sport Competition Anxiety Test (SCAT) are assumed to develop from cumulative positive or negative consequences acquired over a person’s competition history (Martens, 1977). High competitive trait anxious (A-trait) individuals seem to have a history of failure and negative evaluation, and therefore, perceive competion as more personally threatening than low A-trait individuals who have experienced predominately positive consequences. Some researchers (Martens and Gill, 1976; Martens, 1977; Scanlan and Passer, 1978) have consistently found high A-trait individuals manifest greater A-state just prior to
engaging in competition than low A-trait individuals. However, little is known about the manner in which competitive trait anxiety influences perceived threat during actual competition with an opponent of equal ability.

Some investigators have suggested that a moderate amount of anxiety in players is often a help to peak performance. Ford (1968) found that some competitors did better when their anxiety levels were high and that moderate levels of anxiety seemed to elicit increases in performance. McGowan (1969) found that basketball players scoring moderately high in a test of anxiety performed better in competitive situation than did those with lower anxiety scores. Hammer (1969) got similar results when measuring effect of anxiety on performance among wrestlers.

It is clear that intense competition creates varying levels of anxiety within performers. But this fact is also obvious that some performers react adversely to the competitive situation by reacting states of hyper-anxiousness which often result in the inability to achieve optimum levels of performance (Spielberger, 1966; Martens, 1977). Now it is widely accepted that anxiety both trait and particularly state, plays an influential role in the sports performance of athletes. However, its effects are not un-directional but can be accommodated within the framework of the inverted U-hypothesis. Hence, it is generally considered that performance is optimal at intermediate levels of anxiety. At a trait level, it has frequently been found that the best athletes tend to be relatively low in anxiety.
Anxiety causes the pulse rate and blood pressure to increase, creates a poor distribution of blood, a disruption of the peristalsis in the digestive system, a widening of the windpipe and pupils and further increases the production of the sweat glands. In short, all functions are controlled by the sympathetic nervous system. The opposite, however, can also be activated at the same time. A good example of this is crying, which is a process triggered by the parasympathetic nervous system through the stimulation of the lacrimal glands. The below table summarizes the nervous system on the various human organs.

<table>
<thead>
<tr>
<th>Organ</th>
<th>Sympathetic Nervous System</th>
<th>Parasympathetic Nervous System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart</td>
<td>Increase in contractile force and pulse (shortened time of transition)</td>
<td>Decrease in contractile force and pulse (longer time of transition)</td>
</tr>
<tr>
<td>Vascular System</td>
<td>Increased tonicity (vasoconstriction)</td>
<td>Decreased tonicity (vasodilation)</td>
</tr>
<tr>
<td>Bronchial System</td>
<td>Dilation</td>
<td>Constriction</td>
</tr>
<tr>
<td>Stomach/Intestine</td>
<td>Retardation of peristalsis</td>
<td>Increase of peristalsis</td>
</tr>
<tr>
<td>Pupils</td>
<td>Dilation</td>
<td>Constriction</td>
</tr>
<tr>
<td>Palpebral fissure</td>
<td>Dilation</td>
<td>-</td>
</tr>
<tr>
<td>Hair follicles</td>
<td>Muscle contraction</td>
<td>-</td>
</tr>
<tr>
<td>Genitalia</td>
<td>Orgasm reflex</td>
<td>Secretion</td>
</tr>
<tr>
<td>Stomach, Intestinal Gland</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Pancreas</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Sweat Glands</td>
<td>Secretion</td>
<td>-</td>
</tr>
<tr>
<td>Lacrimal Gland</td>
<td>Slight secretion</td>
<td>Strong secretion</td>
</tr>
<tr>
<td>Adrenal Medulla</td>
<td>Hormonal output</td>
<td>-</td>
</tr>
</tbody>
</table>

*Effect of the nervous system on the various human organs*

*(by H. Legewie, L. Nusselt)*
After the representation of anxiety and its effect on the psyche and biocybernetics, let's take a closer look at the topic dealing with "anxiety in sports".

<table>
<thead>
<tr>
<th>State before start</th>
<th>Physiological Characteristics</th>
<th>Physiological Characteristics</th>
<th>Manifestation in Sport</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start fever</td>
<td>Acute stimulation of central excitation process; acute vegetative shifts increased pulse rate, outbreak in sweat, trembling etc.; weakness</td>
<td>Intense nervousness; inability to concentrate; forgetfulness; emotional instability; unmotivated haste; psychomotor restlessness; fear of opponent</td>
<td>Disorganized motor skills; deviation from tactical plan; loss of the time and rhythm; cramping; wild and uncontrolled tension</td>
</tr>
<tr>
<td>Start apathy</td>
<td>Acute stimulation of central retarding processes; reduced excitability; vegetative shifts (exhaustion, leadenness); weakness</td>
<td>Slackening of perception, intensity of thought and alertness; mental sluggishness; bad mood; aversion to competition; dissatisfaction</td>
<td>Strength only partially mobilized; incapable of warming-up; no energetic fighting spirit (rapid exhaustion); no pep after competition; full potential not used; reactions too slow</td>
</tr>
<tr>
<td>Optimally prepared</td>
<td>Concentration &amp; balance of central excitation &amp; retardation processes; optimal intensity of physiological process breathing circulation, metabolism, hormonal regulation etc.)</td>
<td>Optimal activity level &amp; for the competition; positive emotions; self-confidence &amp; performance optimism; optimal alertness; great self control; great stability etc.</td>
<td>Competition according to tactical plan; control; performance level reached or exceeded; performance demands tactically and properly used</td>
</tr>
</tbody>
</table>

(by F. Schubert)
Anxiety plays a major role, where sensor motor skills such as the finely coordinated processes of movement, are stressed, where a temporary decrease in vitality can not be compensated for by extraordinary efforts, and where a transposition in aggression is not appropriate.

**Self Confidence :**

The relationship between anxiety and sport performance has attracted much research attention over the past 20 years, and researchers have tried to clarify this relationship by advancing several models and theories. These include multidimensional anxiety theory (Martens et al., 1990), catastrophe models (Hardy, 1990,1996a), reversal theory (Apter, 1982; Kerr, 1990) and zones of optimal functioning models (Hanin, 1980,1986). In multidimensional anxiety theory, Martens et al.(1990) proposed a series of two-dimensional relationships between cognitive anxiety, somatic anxiety, Self-Confidence and performance. Cognitive anxiety was defined as ‘negative expectations and cognitive concerns about oneself, the situation at hand, and potential consequences’ (Morris et al., 1981, p. 541). Somatic anxiety was conceptualized as the perception of one’s physiological arousal. Self-Confidence was conceptualized as one’s belief in meeting the challenge of the task to be performed. In multidimensional anxiety theory (Martens et al., 1990), cognitive anxiety is hypothesized to have a negative linear relationship with
performance; somatic anxiety is hypothesized to have a quadratic (inverted-U shaped) relationship with performance; and Self-Confidence is hypothesized to have a positive linear relationship with performance. The hypothesized negative linear relationship between cognitive anxiety and performance was largely based upon theories of attention (e.g. Wine, 1971, 1980), whereby cognitive resources are taken up by worrying thoughts and so are not available for use on the task at hand. As Martens et al. (1990) conceptualized cognitive anxiety and Self-Confidence as lying at opposite ends of a continuum, they hypothesized that Self-Confidence and performance would be related in a positive linear fashion. However, the rationale for the hypothesized inverted-U relationship between somatic anxiety and performance is much less clear. Martens et al. (1990) cited Weinberg’s (1978) research, which suggests that too much muscular tension will lead to a deterioration in performance. However, Martens et al. offered no theoretical explanation for the hypothesized curvilinear relationship between the perception of one’s physiological arousal (i.e. somatic anxiety) and performance (see Woodman and Hardy, 2001a). Thus, although somatic anxiety is a useful indirect measure of the physiological indices of anxiety, it is of limited theoretical value in explaining the relationship between physiological arousal and performance. Consequently, we focus here only on the effects of cognitive anxiety and Self-Confidence upon sport performance. Several
investigations have been conducted to test the proposed relationships between cognitive anxiety and performance and between Self-Con?dence and performance. For example, Burton (1988) found a negative linear trend between cognitive anxiety and swimming performance and a positive linear trend between Self-Con?dence and performance. In the two samples investigated by Burton, cognitive anxiety accounted for up to 46% of swimming performance variance and Self-Con?dence accounted for up to 21%. Gould et al. (1984) also found a significant negative linear relationship between cognitive anxiety and performance, but no significant trend between Self-Con?dence and performance. Conversely, Martin and Gill (1991) found Self-Con?dence to be significantly and positively related to distance running performance, but found no significant relationship between cognitive anxiety and running performance. Similarly, in their study of pistol shooters, Gould et al. (1987) found no significant relationship between cognitive anxiety and performance. However, in that study, a significant negative relationship between Self-Con?dence and performance was revealed. Other studies have revealed no significant relationships between cognitive anxiety and performance (Maynard and Cotton, 1993; Hammermeister and Burton, 1995; Vadocz et al., 1997) or between Self-Con?dence and performance (Williams and Krane, 1992; Maynard and Cotton, 1993). Thus, the relative impact of cognitive anxiety and self confidence upon competitive sport performance
remains unclear. The inventory that was used to measure cognitive Anxiety and Self-Con?dence in most of the above studies was the Competitive State Anxiety Inventory-2 (CSAI-2; Martens et al., 1990). The CSAI-2 was originally intended to be an anxiety scale comprising two subscales: cognitive anxiety and somatic anxiety. However, in the exploratory factor analysis of the items comprising the CSAI-2, Martens et al. (1990) found that the cognitive anxiety items effectively separated into two factors, one that included negatively phrased items and one that included positively phrased items. These factors were subsequently labeled cognitive anxiety and Self-Con?dence, respectively. Thus, a Self-Con?dence subscale was also included in the CSAI-2. In the discussion of their factor analyses, Martens et al. (1990) stated: ‘These ?ndings suggest that cognitive A state and state Self-Con?dence represent opposite ends of a cognitive evaluation continuum, state Self-Con?dence being viewed as the absence of cognitive A state, or conversely, cognitive A-state being the lack of state Self-Con?dence ’. Given that cognitive anxiety and Self-Con?dence emerged as orthogonal (i.e. independent) factors in these factor analyses, it is surprising that Martens et al. (1990) should view them as bipolar (i.e. interdependent). Furthermore, there appears to be sufficient evidence to suggest that cognitive anxiety and Self-Con?dence are meaningfully distinct constructs (Burrows et al., 1977; Thayer, 1978; Gould et al., 1984, 1987; Hardy and Whitehead, 1984; Jones and Cale, 1989; Hardy,
For example, although Gould et al. (1984) found a significant negative linear relationship between cognitive anxiety and performance, they found no significant trend between Self-Confidence and performance. Also, in their work on the antecedents and temporal patterning of cognitive anxiety and Self-Confidence, Jones et al. (1990, 1991) provided more evidence for the relative independence of cognitive anxiety and Self-Confidence. Finally, both Hardy (1996b) and Par?tt and Pates (1999) found that Self-Confidence accounted for a significant proportion of performance variance over and above that accounted for by cognitive anxiety. In light of the discrepant results revealed between different studies that have reported cognitive anxiety–performance and Self-Confidence performance relationships, it is important to consider which variables might be moderating these relationships. We consider three major moderator variables: (a) measurement, (b) type of sport and (c) individual differences.

1.1 STATEMENT OF PROBLEM:

The statement of the present study is “A Study of Sports Competitive Anxiety and Self Confidence among National Level Shooters”

The purpose of the study is to compare the sports competitive anxiety and self confidence of National Level shooters between before and during competition and also to study the relationship among psychophysiological variables before and during competition.
1.2 OBJECTIVES OF THE STUDY:

The following objectives made for the present study:

1. To study the difference in level of self confidence between sports persons participating in national level shooting before competition and during competition.

2. To study the difference in level of anxiety between sports persons participating in national level shooting before competition and during competition.

3. To study the difference in Fine motor activity between sports persons participating in national level shooting before competition and during competition.

4. To study the difference in psycho motor activity between sports persons participating in national level shooting before competition and during competition.

5. To study the difference in Blood pressure Diastolic between sports persons participating in national level shooting before competition and during competition.

6. To study the difference in Blood pressure Systolic between sports persons participating in national level shooting before competition and during competition.

7. To study the difference in Pulse rate between sports persons participating in national level shooting before competition and during competition.
8. To study the difference in Skin resistance between sports persons participating in national level shooting before competition and during competition.

9. To study the correlation among psycho physiological variables before competition among sports persons specifically participating in national level shooting competitions.

10. To study the correlation among psycho physiological variables during competition among sports persons specifically participating in national level shooting competitions.

1.3 DELIMITATIONS:

1. The study was delimited to sports persons participating in shooting competitions.

2. The study was delimited to sports persons participating in below 25 meters range shooting competitions.

3. The study was delimited to sports persons participating in national level shooting competitions.

4. The study was delimited to 40 sports persons participating in national level shooting competitions.

5. The study was delimited to sports persons aged between 18 to 35 years.

6. The study was delimited to some psycho-physiological variables like

   a) Self confidence
b) Anxiety  
c) Fine motor activity  
d) Psycho motor ability  
e) Blood pressure Diastolic  
f) Blood pressure Systolic  
g) Pulse rate  
h) Skin resistance  

1.5 LIMITATIONS:

1. The study is conducted through questionnaires and selected physiological assessment tools which can be considered as limitation.

2. Number of years of experience may have an effect on performance and psycho-physiological correlates which was not controlled, and can act as a limitation for the study.

3. Number of national level competitions participated may also have an effect on performance and psycho-physiological correlation which was not controlled, and act as a limitation for the study.

4. The response given by the subjects is treated as genuine which can be considered as another limitation.

5. No special motivational technique is used during the administration of psycho-physiological tests to obtain optimum results from the subjects which can be another limitation.
1.6 **HYPOTHESES**:

1. It was hypothesized there would be a significant difference in level of sports competitive anxiety between sports persons participating in national level shooting before competition and during competition.

2. It was hypothesized there would be a significant difference in level of self confidence between sports persons participating in national level shooting before competition and during competition.

3. It was hypothesized there would be a significant difference in Fine motor activity between sports persons participating in national level shooting before competition and during competition.

4. It was hypothesized there would be a significant difference in psycho motor activity between sports persons participating in national level shooting before competition and during competition.

5. It was hypothesized there would be a significant difference in Blood pressure Diastolic between sports persons participating in national level shooting before competition and during competition.
6. It was hypothesized there would be a significant difference in Blood pressure Systolic between sports persons participating in national level shooting before competition and during competition.

7. It was hypothesized there would be a significant difference in Pulse rate between sports persons participating in national level shooting before competition and during competition.

8. It was hypothesized there would be a significant difference in Skin resistance between sports persons participating in national level shooting before competition and during competition.

9. It was hypothesized there would be a correlation among psycho physiological variables before competition among sports persons specifically participating in national level shooting competitions.

10. It was hypothesized there would be a correlation among psycho physiological variables during competition among sports persons specifically participating in national level shooting competitions.

1.7 SIGNIFICANCE OF THE STUDY:

A sports achievement is always a many sided phenomenon in the sense that depends on many factors, such as techno-tactical actions, motor fitness, physiological conditioning and more importantly psychological factors.
The present study intends to investigate some of the psychological factors that determine sports performance. The present study mainly focused on sports competitive anxiety and Self confidence of shooters before the competition and during the competition. It also tries to find out the relationship and differences in psycho-physiological variables on shooters.

The importance of this study may be summarized in the following manner.

1. The review of studies in the chapter second has revealed that there are hardly few studies which have concentrated anxiety and self confidence of shooters. Even available studies have concentrated on fragmented aspects of psychological variables. In the present study an attempt has been made to provide an integrated picture of sports competitive anxiety and self confidence of national level shooters.

2. The findings and knowledge of the present study would help the coaches, sports trainers, sports administrators and the physical educationist in their professional work.

3. The present study would acquaint the coaches with the knowledge of psychological factors - sports competitive anxiety and self confidence of shooters, which are more useful in the modern, sports not only in during the training period, but also during different levels of sports competitions.
4. Knowledge of sports competitive anxiety and self confidence would help sports scientists in predicting success of shooters or to expect the peak performance.

5. The findings of the study would provide a guideline to future research investigators in sports psychology as well as psycho-physiology to conduct further research in the field of sports.

6. The findings of the study would enhance further knowledge to existing of sports psychology and psycho-physiology.

7. The results of the study would reveal at what time the shooters have high level of anxiety and accordingly the coaches would use psychological technique to control anxiety.

8. The present study would help the coaches to understand the confidence level of the shooters and to develop their confidence for better performance.

1.8 DEFINITION AND EXPLANATION OF THE TERMS:

**Competitive Traits Anxiety:**

Competition A-trait is defined as a tendency to perceive competitive situations as threatening and to respond to these situations with feeling of apprehension of tension.

Anxiety is a multi-system response to perceived threat or danger. It reflects a combination of biochemical changes in the body, the patient’s personal history and memory, and the social situation. As far
as we know, anxiety is a uniquely human experience. Other animals clearly know fear, but human anxiety involves an ability, to use memory and imagination to move backward and forward in time, that animals do not appear to have. The anxiety that occurs in post-traumatic syndromes indicates that human memory is a much more complicated mental function than animal memory. Moreover, a large portion of human anxiety is produced by anticipation of future events. Without a sense of personal continuity over time, people would not have the “raw materials” of anxiety.

It is important to distinguish between anxiety as a feeling or experience, and an anxiety disorder as a psychiatric diagnosis. A person may feel anxious without having an anxiety disorder. Also a person facing a clear and present danger or a realistic fear is not usually considered to be in a state of anxiety. In addition, anxiety frequently occurs as a symptom in other categories of psychiatric disturbance.

**Self Confidence:**

Self confidence is an aspect of self esteem. It is an attitude based on the belief that one can succeed.

“Realistic confidence in one’s own judgment, ability, power, etc... belief in oneself and one’s powers or abilities”
The word confidence originates from the Latin "confidere", meaning to trust. Trusting and believing in ourselves, having faith in our ability in whatever situation we need to perform.

At the heart of building self-confidence and becoming more confident is this conundrum of uncertainty, our inability to control the world around us. Whilst there are many other techniques and ideas that we will cover in this blog, the first and most important is to accept this lack of control.

You can build self-confidence by not letting the feelings generated by uncertainty take over. We have a built in system to protect us from danger- “fight or flight” – that creates what we identify as anxiety symptoms when threatened. Tolerate that feeling of anxiety, recognize that uncertainty is a challenge rather than a threat. Once you start to do that, then you’re on the way to building confidence and generally being more confident.

Self-confidence is essentially an attitude which allows us to have a positive and realistic perception of ourselves and our abilities. It is characterized by personal attributes such as assertiveness, optimism, enthusiasm, affection, pride, independence, trust, the ability to handle criticism and emotional maturity. Confidence is learned, it is not inherited. If you lack confidence, it probably means that, as a child, you were criticized, undermined, or suffered an inexplicable tragic loss, for which you either blamed yourself or were blamed by others. A lack of
confidence isn’t necessarily permanent but it can be if it isn’t addressed. Our religion, the influence of the culture which formed our perspectives, our gender, social class and our parents, in particular, are all factors which influence and contribute to our level of confidence and esteem.