CHAPTER-I

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Sports and games became a focal point to establishing a strong relationship wherever we lived. It is a familiar and comfortable venue for connection with each other because sport is a complex activity, which become a sort of war on human muscles and mind. We have witnessed a revolution in the wide arena of sports. Now a day’s one of the most challenging tasks for athletes is how they improve psychological behaviour and performance in competitive sports. It has been previously conceded that psycho-physiological conditioning programs and traditionally skill practices are of crucial importance in high-level competitive sports, which highly affects an athlete’s performance.

It has been caused due to the scientific approach and their application in sports. The modern science of psychology has established beyond doubt that some of the characteristic and qualities are inherited while others are acquired, especially in the context of sports, through constant participation, practice, and performance over a period of time (Kamlesh, 2004). However, it is extremely difficult to distinguish
between what and how much is genetically inherited and what and how much is acquired through efforts.

Athletics was very popular and unique sports in the in 776 B.C. It is a collection of sports events that involve running, throwing and jumping. The first race of record is noted to have taken place at the first Olympic Festival in Ancient Rome in 776 B.C. During these times, the Olympics remained the main stage for all track and field events and it only displayed such events every four years. The first college athletics competition was held between Oxford and Cambridge in 1864, and it was included in the first modern Olympic which was organized at Athens (Greece) in 1896 and has formed its backbone since. Female were first allowed to participate in track and field events in the Olympics in 1928 because both male and female do not participate against each other. Female generally run the same distances as male although hurdles and steeplechase barriers are lower and the weights of the shot, discus, javelin and hammer are lesser.

If we talk about the Indian athletes performances in the track and field condition so far, it can be said that the Indian athletes have a rich tradition of brilliant performances in the international competition. India has produced a lot of successful athletes at national and international
level. The most successful and famous Indian athletes include the names of Jeev Milkha Singh, T.C. Yohannan, Gurbachan Singh, Sriram Singh etc. All of these athletes are considered as the golden boys for Indian athletics in its initial period. In present, among the most successful Indian athletics like P. T. Usha, Anju Bobby George, Jyotirmoyee Sikdar, Saraswati Saha and Soma Biswas etc. A part from them, there are also some other athletes who are showing the signs to become successful in the international tournaments in the near future. Keeping in mind all the phases in the evolution of Athletics in India, it can be said that Athletics has shown a continuous trend of improvement so far and it is showing some promising signs for the future performance.

In present sporting environment, sport scientists and sports psychologists have the capacity and ability to search and find out those invisible factors which directly and indirectly support towards the enhancement of athlete’s performance. Sports related scientific research and development in India has not been able to keep pace with international standard in the wide arena of sport psychology, exercise physiology, sport training methods, kinesiology, sports medicine and injury management etc. To achieve the highest and economical performance in the field of games and sports at national and international
level, a positive attention should be given towards research development in sports sciences and its allied field.

**Sports Psychology**

The term sports psychology is defined as the study of psychological and mental factors affecting participation in sport, exercise, and physical activities and the application of the knowledge thus gained to everyday setting (LeUnes & Nation, 2002). Coleman Griffith, the father of sports psychology, introduced the concept of sports psychology in 1925 by teaching the first sports psychology class at the University of Illinois. Today, the field of sports psychology continues to make positive contributions to both competitive athletics and the world of sports. The significance of psychological factors for performance enhancement has been forcefully stressed by many experts (Singer & Kane, 1975; Brook & Whiting, 1975; Bull, 1995). They advocated that individuals are affected not merely by their physical and techno - tactical ability but also by their psychological make-up. Mahoney, Avener and Evener (1983) suggested that within constraints an athlete’s performance is significantly related to his or her psychological functioning.
Sport psychology has a unique place in sport sciences. There are numerous factors that are responsible for the performance of sports person’s including track and field athletes as fundamental skill, technique, physiological, anthropometrical etc. along with these factors; the performance of athletes is also determined by certain psychological variables. It plays an important role with increasing, managing and sustaining the sports performance by emotions and minimizing the psychological effects on individual behaviour and poor performance. A lot of psychological factors affect participation and performance in sporting event, especially track and field participants. It is also a specialization within the brain psychology and kinesiology that seeks to understand psychological factors that affect performance in sports, physical activity, and exercise and apply these to enhance an individual and team performance. Some of the most important skills taught are goal setting, relaxation, visualization, self-talk, awareness and control, concentration, confidence and using rituals.

Since from decades, the sports psychologists and researchers have been scholarly examine the influence of certain significant psychological variables such as self-concept, self-esteem, level of aspiration, achievement motivation, adjustment and locus of control which influence
the performance of athletes. The review literature reveal that no study has been conducted taking into account the variables like competitive state anxiety and self-efficacy among track and field athletes in relation to their performance of them. The present study is an attempt to study these variables in relation to performance of athletes.

**Anxiety**

The concept of anxiety may be either psychic or somatic or even both; the most important point in each case is the intensity of abating and trigger off psycho-chemical reaction in the body and creates a vicious circle. Rachman (1998) defined anxiety as a pervasive and significant negative effect is a central feature of many psychological problems. Anxiety is a common phenomenon of everyday life and plays a crucial role in human life because all of us are the victim of anxiety in different ways, it has been a natural reaction to threats in the environment and part of the preparation for the fight or flight response. This is our body’s primitive and automatic response that prepares it to fight or flee from perceived harm or attack. It is a hardwired response that ensures survival of the human species. Sporting competition promotes similar psychological and bodily responses because there is often a threat posed towards the ego; your sense of self-esteem. Essentially, when the
demands of training or competition exceed one’s perceived ability, anxiety is the inevitable outcome.

Habitually, before any sports competition athletes experience stress or anxiety due to increased psychological demands of the sports competition situation. Therefore, it is an imbalance between demand and capacity of an athlete to execute a course of action. Anxiety is a physiological response to a real or imagined threat. A positive amount of anxiety is required to achieve desirable task. But higher level of anxiety physically inhibits performance by causing muscular tension and disturbing coordination of the movements. Therefore, it is very important aspect to be handled which highly helps a coach to prepare the athletes physically and mentally in such a way that an individual himself is able to resist and tolerate any kind of psychological eventuality, which may occur before or during competition.

Games and sports turn out as the special opportunities for the study of the feelings of the athletes in a mixture of sporting events (Bray, Jones & Owen, 2002; Tielman, Peacock, Cureton & Dishman, 2002). Anxiety is a feeling that exists in people nature. It occurs under irritating condition excess anxiety may result in abnormal functions for the body. Every
human being feels different level of anxiety, and physiological properties that play very important role in this situation (Spilberger, 1966).

Practically every concern of human endeavor is thought to be affected somehow by anxiety. It is a reaction by an individual to a stressful situation (Spilberger, 1972) and in competitive sports, a great amount of stress can be placed on an athletic performance and it starts gradually and increases step by step. In case, it is not controlled, it rises and irritates athlete. The main reasons of anxiety are business travel, smoking, and alcohol, overweight, fear of failure, inappropriate physical appearance etc. Anxiety indications may be bone pains, being tired, headache, nervousness, inadequate sleeping, forgetting, hesitation, hypochondriacs etc. (Link, 1993). It is a kind of signal, a premonition of impending danger, an indicator that something is not going well in the life of the affected individual. It was also stated that when the ego is forced to acknowledge its weakness, it breaks in to anxiety (Freud, 1949).

Anxiety is a psychological and physiological state characterized by cognitive, somatic, emotional, and behavioral components. These components combine to create the painful feelings that an athlete’s typically recognize as anger, fear oppression, or worry. Anxiety is often accompanied by physical sensations such as heart palpitation, nausea,
chest pain, shortness of breath, stomach aches, or headache. The cognitive components entail expectation of a diffuse and certain danger. Somatically the body prepares the organism to deal with threat, heart rates are increased, sweating is increased, blood flow, immune and digestive system functions are inhibited. Externally, somatic signs of anxiety may include pale skin, sweating, trembling, and papillary dilation. Emotionally, anxiety causes a sense of dread or panic and physically causes nausea, diarrhea, and chills. Behaviorally, both voluntary and involuntary behaviors may arise directed at escaping or avoiding the source of anxiety and often maladaptive, being most extreme in anxiety disorders. However, anxiety is not always pathological or maladaptive. It is a common emotion along with bear, anger, sadness, and happiness, and it has a very important function in relation to survival.

Spielberger (1966) was the first person who separated anxiety into two dimensions, first trait anxiety, and second state anxiety. State anxiety is applied to temporary excitement and immediate emotional state that are accompanied with anxiety and tension, fear, and an increase in physiological arousal, and trait anxiety is a relative stable and acquisitive behavioral attitude that is often described as a personality characteristic (Roberts, Covin, & Sinthial, 2004). Foremost, it has been believed that
competitive state anxiety determines success in fulfillment (Jarvis, 2002) and there exists a direct relationship between competitive trait anxiety and competitive state anxiety (Weinberg & Hunt, 1976) but some studies conclude that competitive state anxiety exists in all athletes (Passand, 1997; Shamshiri, 2000; Elgin, 2000).

State anxiety generally follows a pattern of personal feelings of tension and inadequacy, combined with heightened arousal of the autonomic nervous system. It is an immediate emotional state of an individual that is characterized by apprehension, tension, fear, and an increase in physiological arousal. The level of the anxious state alternates according to the amount of stressful stimuli the athlete encounters, and the period of subjective threat created by the stimuli (Hackfort & Schwenkmezger, 1989). In competitive situation an athlete can react both physically (somatic) and mentally (cognitive) in a manner which can negatively affect his/her performance abilities. Competitive state anxiety consists of cognitive (cognitive anxiety) and behavioural (somatic anxiety) components that form a multi-dimensional construct (Martens, Burton, Vealey, Bump, & Smith, 1990). Cognitive anxiety refers to negative expectations and the concerns a person may have, whereas somatic anxiety refers to the person’s physiological arousal. The
relationship between anxiety and athletic performance is somewhat equivocal. Many theories and models have tried to clarify the relationship between anxiety and sport performance. It has been suggested that cognitive anxiety might influence all forms of athletic performance in a negative linear fashion, whereas somatic anxiety tends to disrupt fine motor skill in a quadratic way (Lavallee, Kremer, Moran, & Williams, 2004). More recently, it has been suggested that the interpretation of anxiety symptoms is also of importance in the experience of anxiety. That is, the way an athlete perceives his or her arousal may result in the situation being judged as either (a) positive and challenging or (b) negative and overwhelming (Mellalieu, Hanton, & Fletcher, 2006). The assertion that the interpretation of anxiety symptoms can be either facilitative or debilitative has received some support in the sports literature (Jones & Swain, 1992). It influences on performance continues to be one of the main research interests for sport psychologists (Woodman & Hardy, 2001). Anxiety is postulated to occur as a result of threat and is related to the subjective evaluation of a situation with regard to one’s self-esteem (Eysenck, 1992). Several theorists have suggested that the negative performance effects of anxiety are due to the manner in which worry and other forms of cognitive interference occupy attention (Kahneman, 1973; Sarason, 1988). One theory that provides an
explanatory account of the mechanisms involved in the anxiety performance relationship, and that has been the focus of recent research in sports settings, is processing efficiency theory (Eysenck & Calvo, 1992).

Self-efficacy

Self-efficacy is fundamentally a situational-specific form of self-confidence. It is a belief that one has the capabilities to execute the courses of actions required to manage prospective situations. In other word, self-efficacy is the perception of one’s ability to successfully perform a particular behavior. Self-efficacy is at the center of Bandura (1977) social cognitive theory, which views human functioning as a result of the interactions between personal factors, behavior, and environment influence (Pajares, 1997). Unlike efficacy, which is the power to produce an effect, self-efficacy is the belief that one has the power to produce that effect. For example, an athlete with high self-efficacy may cross the high jump bar or clear the hurdles and engage in a more such type of health related activity when an unskilled occurs, whereas an athlete with low self-efficacy would harbor feelings of hopelessness.
The concept of self-efficacy was proposed by Bandura (1977) as a means of explaining behavioral change. In the realm of physical activity, it can apply to an individual’s belief in her/his ability to initiate an activity, maintain an exercise program, perform at a certain level, win a game or attempt difficult skills or actions. Highly efficacious individuals seek out new and challenging tasks; intensify their efforts when their performance fall short of their desired goals, and persevere despite repeated failure. It is an individual’s belief in his/her capability to successfully perform a particular task with a positive attitude in defined situation. Together with the goals which set by other people, it is one of the most powerful motivational predictors of how well an individual will perform at almost any endeavor. So an individual’s self-efficacy is a strong determinant of their effort, persistence, strategizing, as well as their subsequent training and athlete’s performance. Besides being highly predictive, self-efficacy can also be developed in order to harness its performance enhancing benefits. Mills, Munroe and Hall (2001) suggest those athletes who are high in self-efficacy in competition situations tend to use more motivational imagery than their low self-efficacy counterparts.
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Perceived self-efficacy is defined as athlete’s belief about their capabilities to produce designate level of performance that exercise influence over events that affect their level. Self-efficacy beliefs determine how people feel, think, motivate themselves and behave. Such beliefs produce this diverse effect through four major processes. They include cognitive, motivational, affective and selection process.

Bandura (1977; 1986) cautions that while self-efficacy is domain-specific, it is also task- and situation-specific; that is, percepts of efficacy pertain to criterion tasks and situations in which they are studied. This perspective enables researchers to gain a deeper understanding of the interactive relationship between self-efficacy and performance.

Self-efficacy is the individuals’ assessment of their capabilities to organize and execute actions required to achieve successful levels of performance (Bandura, 1986). Therefore, it makes a difference in how people feel, think and act. In terms of feeling a low sense of self efficacy is associated with depression, anxiety and helplessness. In terms of thinking, a strong sense of competence facilitates cognitive processes and performance in a variety of settings, including quality of decision-making and related performance with comparison to low self-efficacy athletes. Athletes with high self-efficacy choose to perform more challenging
tasks; they set for themselves higher goals and stick to them. Actions are reshaped in thoughts, and people anticipate either optimistic or pessimistic scenarios in line with their level of self-efficacy.

According to Litt (1988) self-efficacy expectations affect performance beyond what would have been expected from past performance alone. Changes in self-efficacy expectations predict changes in cold pressure tolerance. It affects an athlete’s behavior in different ways: First, self-efficacy influences choice of behavior. People are likely to engage in tasks in which they feel competent and confident and avoid those in which they do not. Second, self-efficacy may help to determine how much effort people will expand on an anxiety and how long will they persevere. Third, self-efficacy beliefs influence individuals’ thought patterns and emotional reactions. Athletes with low self-efficacy may believe that things are tougher than they really are, as belief that may foster stress and narrow vision of how best to go about a problem. Efficacy beliefs difficulties are the foundation of human agency. Unless people believe that they can produce desired results by their actions, they have little incentive to act or to persevere in the face of difficulties. Bandura distinguishes between the two components of self-efficacy: an efficacy expectation and an outcome expectation refer to a person.
Self-efficacy beliefs are constructed from four fundamental sources of information: performance Self-efficacy, vicarious experience, verbal persuasion, and physiological states (Bandura, 1977). Bandura suggested that performance accomplishments are the most influential source of efficacy information, as they provide the most authentic evidence of an individual’s.

**Factors affecting self-efficacy**

According to Albert Bandura’s (1966) social cognitive theory there are four important and major behavior sources of self-efficacy which directly and indirectly influencing an athlete’s competitive sports. First self-efficacy beliefs can be enhanced through personal experience or an individual feedback, as far as success or failure is attributed internally and can be repeated. A second source is vicarious experience. When a model or demonstrator who is similar to the individual successfully masters a difficult situation, social comparison process can enhance self-efficacy beliefs. Third is symbolic experience, which influence through verbal persuasion by other people. For example, A coach reassures a trainer that he/she will certainly give a good performance due to his/her academic competence, the last source of influence is emotional arousal that is, the
person experiences anxiety in a threatening situation and they feel in capable of mastering the situation.

**Performance Experience (Mastery experience)**

It is the most important factor deciding an athlete’s self-efficacy. Basically follow, success raises self-efficacy in a positive manner, failures have a lower self-efficacy. Athletes cannot be fooled by empty praise and condescending encouragement. They may have to accept artificial bolstering of their self-efficacy in lieu of something better, but their accruing ego identity gains real strength only from wholehearted and consistent recognition of real accomplishment, that is, achievement that has meaning in their sporting culture and past performances.

**Vicarious Experience (Modeling)**

If they can do it, I can do it as well. This is a process of comparison between a person and someone else. When an athlete sees someone succeeding at something, their self-efficacy will increase; and where they see other unsuccessful athletes, their self-efficacy will decrease. This process is more effectual where athletes observe themselves as similar to his or her model. If a peer who is perceived as having similar ability succeeds, this will likely increase an observe self-efficacy. Although not
as influential as past experience, modeling is a powerful tool to influence when an athlete is particularly unsure of himself.

Social Persuasions

Social persuasions relate to encouragements/discouragements. These can have a strong influence on athletes’ performance. Athletes remember times where something said to them significantly altered their confidence. Where positive motivational persuasions increase self-efficacy, negative persuasions decrease it. It is generally easier to decrease individual self-efficacy than it is to increase it.

Physiological Factors

In unusual, stressful situations, athletes commonly exhibit signs of distress; shakes, aches and pains, fatigue, fear, nausea, etc. A person's perceptions of these responses can markedly alter a person's self-efficacy. If an athlete becomes anxious, gets butterflies in the stomach, an athlete with low self-efficacy may take this as a sign of their own inability, thus decreasing their efficacy. Further in contrast, a person with high self-efficacy is likely to interpret such physiological signs as normal and unrelated to his or her actual ability, which will continue to be seen as a disregard for trembling hands etc. Thus, it is the person's belief on the
implications of their physiological response that alters their self-efficacy, rather than complete power of the response.

**Statement of the Problem**

The present study deals with some selected psychological variables i.e. Competitive State Anxiety (cognitive state anxiety, somatic state anxiety and self confidence) and General Self Efficacy in relation to the performance of track and field athletes; it may help to find out the differences among high and low performers with regard to the selected psychological variables. Therefore, the present empirical investigation has been conducted entitled as “*A Comparative Study of State Anxiety and self-Efficacy among Athletes*”.

**Objectives of the Study**

The main objectives of the present investigation are:

1. Determine difference between high and low performance athletes on competitive state anxiety and its sub-variables namely, cognitive anxiety, somatic anxiety, and self-confidence.
2. Examine difference between high performance track and field athletes on competitive state anxiety and its sub-variables namely, cognitive anxiety, somatic anxiety, and self-confidence.
3. Determine difference between low performance track and field athletes on competitive state anxiety and its sub-variables namely, cognitive anxiety, somatic anxiety, and self-confidence.

4. Examine difference between high and low performance track athletes on competitive state anxiety and its sub-variables namely, cognitive anxiety, somatic anxiety, and self-confidence.

5. Determine difference between male and female high performance track athletes on competitive state anxiety and its sub-variables namely, cognitive anxiety, somatic anxiety, and self-confidence.

6. Examine difference between male and female low performance track athletes on competitive state anxiety and its sub-variables namely, cognitive anxiety, somatic anxiety, and self-confidence.

7. Determine difference between high and low performance field athletes on competitive state anxiety and its sub-variables namely, cognitive anxiety, somatic anxiety, and self-confidence.

8. Examine between male and female high performance field athletes on competitive state anxiety and its sub-variables.

9. Examine difference between male and female low performance field athletes on competitive state anxiety and its sub-variables.

10. Determine difference between high and low performance athletes on self-efficacy.
11. Determine the difference between high performance track and field athletes on self efficacy.

12. Determine the difference between low performance track and field athletes on self efficacy.

13. Examine the difference between high and low performance track athletes on self efficacy.

14. Determine the difference between male and female high performance track athletes on self efficacy.

15. Determine the difference between male and female low performance track athletes on self efficacy.

16. Examine difference between high and low performance field athletes on self efficacy.

17. Determine the difference between male and female high performance field athletes on self efficacy.

18. Examine the difference between male and female low performance field athletes on self efficacy.
Hypotheses

The following hypotheses have been formulated for athletes’ performance in their respective event:

1. Athletes of high competitive state anxiety record holders would be low performers in their respective event.
2. Athletes having low competitive state anxiety would be high performers in their respective event.
3. High performance male and female athletes would differ significantly on competitive state anxiety.
4. There would be insignificant difference between male and female low performance athletes on competitive state anxiety.
5. High self-efficacy record holders would be high performers.
6. Athletes of low self-efficacy record holders would be low performers in their respective event.
7. There would be insignificant difference between male and female high performance athletes on self-efficacy.
8. Low performance male and female athletes would insignificantly differ on self-efficacy.
Limitations of the Study

1. Questionnaire research had its own limitation, which biasness that might have come into the mind of the athletes at the time of responding to the statements in questionnaire.

2. Test was administered in different point of time, considering the availability of the subjects depending on competitions. This will be affecting the responses, which was considered as the limitations of the study.

3. There was no time barrier to fill up the questionnaire but 5 to 7 minutes is required to complete.

Delimitations of the Study

The study was delimited to:

1. Only track and field athletes were taken.

2. Athletes of both genders with the chronological age of 18-25 years were selected.

3. The study would be carried out on All-India Intervarsity level athletes.

4. The study was delimited to the sample of 400 athletes.
5. The study was further delimited to the following psychological parameters, (a) Competitive state anxiety (Cognitive anxiety, Somatic anxiety, and Self-confidence) and (b) Self efficacy.

Definitions and Explanation of Technical Terms

Anxiety:

Anxiety is an uneasiness and feeling of foreboding often found when person is about to embark on a hazardous venture. It often accomplished by strong desire to excel. State anxiety refers to the tendency of a person to become anxious in a particular arousal situation.

Cognitive anxiety:

Cognitive anxiety is the anxiety where the acquired knowledge by use and reasoning, intuition and perception as soon as normal abilities of knowledge, is being disturbed before competition.

Somatic anxiety:

Somatic anxiety is the tension or arousal felt in the body. when the tension is reduced the mind had no reason to search foe as explanation of the way the body is energized the most common complaint is inability to
relax because of tens muscles, then having difficulty unmaking skillful movement need to perform well (Msters, 1987).

**Self-confidence:**

Self-confidence is a state of a person which makes him attentive about his/her positive abilities making him, to feel with full energy for executing any operation successfully undertaken by him in any situation. Rigorous practices boast it enormously, over and above success in concerned field leads to its zenith.

**Self-efficacy:**

Self-efficacy is an individuals’ assessment of their capabilities to organize and execute actions required to achieve successful levels of performance (Bandura, 1986) that mean, it is an athlete’s belief about their capabilities to produce designate level of performance that exercise influence over events that affect their level.
Significance of the Study

The present empirical investigation may be considering some meaningful significant as a following manner.

1. Present study would provide the opportunity for research in the area of athlete’s self-efficacy.
2. The present investigation would be useful to ascertain the level of somatic tension, cognitive worry and self-confidence of the track and field athletes.
3. Athletes to formulate an ideal, affected and meaningful training programs for attainment of desirable performance taking into account the relationship of psychological variables.
4. The coaches can work with cognitive anxiety in a positive manner for increasing the performance of the athletes.
5. Results may indicate competitive anxiety and self-efficacy of athletes belonging to selected track and field athletes by comparing these dimension i.e. somatic anxiety, cognitive anxiety, self-confidence and self-efficacy of track and field athletes.
6. To understand the nature and symptoms of anxiety in athletes and help the coaches in identifying the right type of talent for a particular event.
7. Coaches can work with self-confidence variable for enhancing the track and field athlete’s performance.

8. The knowledge about self-efficacy of an athlete and his subsequent behavior will provide a clear understanding to the coaches and trainer to adapt their belief.

9. The outcome of present investigation would also helpful to the trainer and coaches to formulate an ideal training schedule to achieve the crest performance taking into account the effect of stated psychological variables.

10. The study would be also beneficial and provide a proper guidance to the researchers to undertake similar problem in different games and sports.