CHAPTER I

INTRODUCTION

An athlete in action has to encounter numerous predictable and unpredictable situations. His physical, technical, tactical and psychological prowess help him adapt to these situations. Many scholars have in the recent past, studied the psychological make-up of athletes of the team and individual events such as combative and non-combative sports; contact, non-contact and semi-contact sports; and, that of closed and open skills (Ogilvie, 1967; Kane, 1968; Kroll and Crenshaw, 1968; Sack, 1975 and Kirkcaldy, 1982). Their findings can be understood better if we try to understand the Event-Role and Situation-Specific psychological interactions of each athlete.

Knapp (1964) used the terms 'Closed and open skills'. Closed skill relies almost entirely on physical components of strength, power and technique, whereas open skill, in addition, demands that movements should be nicely fitted to a changing environment. In fact, the performer must assess the situation, then choose the movement to make, and decide how best to execute that movement. It is of interest to note that closed and open skills attract different individuals to participate and put different psychological demands on them for better
results. While team games require open skills, most of the individual events need closed skills.

Kane (1968) has suggested that the range of skills and abilities involved and their peculiar physical and temperamental demands would make a, within event analysis essential. While for the explosive events the brash outgoing extroverted individual seems to be ideally suited, it appears that shrewd, calculating, self analytical types, tending to introversion, are more likely to be successful at middle distance running.

It is always a treat to watch a champion athlete execute skills with ease, grace, rhythm, speed and calmness. But the factors that cause individual differences consequently determine the quality of the participants' performance being crucial must be enumerated. Singer (1972) has listed growth and development factors, personality factors, personal and social factors, practice, learning and training factors as the main determinants of athletic performance. Singer (1972) has also stated that exceptional athlete is both born and made; hence, displays abilities and skills reflected by the interaction of natural and environmental variables. Therefore, if the coach knows something about the athlete's family characteristics and his experiences in sports, he should be able to predict the athlete's future status with accuracy. Research in the recent
past, particularly in sports psychology, has stressed the
importance of the socio-psychological factors which play a
key role in the performance of an athlete.

Cratty (1973) comments, "Future records will be broken
primarily because of increased attention to the psychological
parameters of human personality". Singer (1972) elaborates,
"Perhaps some day the coach will select athletes not only
according to demonstrated skills and physical characteristics,
but according to personality traits as well. If two players
have similar ability, the deciding factor may be the presence
in one of them of a desirable combination of personality traits
known to be associated with success in a given sport".

To explain and analyse an athlete's competitive
behaviour, we must examine his socio-psychological dimensions
in the movement context. Psychological factors can affect
the performance of an individual and the whole team. These
tendencies can make or mar the performance depending on
'assets' or 'liabilities': assets when we possess them,
liability when they possess us. Psychological stresses
and time pressure associated with competition are likely
to affect the decision making and performance. Alderman
(1974) while emphasizing these psychological factors comments,
"One essential point which must be stressed is that regardless
of how much ability, skill or fitness level a person possesses
for a particular task or sport, the success or the quality of his performance will, in the final analysis probably depend on his particular psychological make-up". Keeping this background in mind, it should not surprise any one that after years of relative neglect, psychological aspects of sports are beginning to receive systematic research attention.

A person's psycho-physical systems dictate his tendencies to respond in a particular manner when stimulated. Such tendencies take shape through the years. Specific behaviour is not inherited. Gene transmission certainly provides the framework but experience in life either brings out behavioural tendencies or represses them. Environment during childhood is most vital in the development of personality. Certain behaviour becomes stabilized and later appears to be habitual. These are highly change-resistant. It is these consistent, stable, predictive patterns of behaviour which tend to suggest an individual's personality (Singer, 1975).

The same stimuli in a given situation are perceived differently by different individuals, leading to varied responses. Differences in behaviour are bound to appear, the basis of which lies in the psychological characteristics. The trait-theorists believe that behavioural consistency and generalisability are the product of the dispositional tendencies called as traits. To bring home his point that trait itself is
subject to different perceptions, Carron (1980) quoted the different perceptions of Allport (1964) and Guilford (1959).
The former considered trait as "a neuropsychic structure having the capacity to render many stimuli functionally equivalent (meaningfully consistent) forms of adaptive and expressive behaviour". Whereas Guilford describes trait as any distinguishable, relatively enduring way in which one individual differs from another.

Some authors have tried to combine the social learning approach with the trait approach with a balanced emphasis on each by describing individuals in terms of the kinds of responses they tend to manifest in various kinds of situations. Endler and Hunt (1973) concluded that situation as also individuals should not be considered in isolation while explaining the variability in individual behaviour. The works of Schurr, Ashley and Joy (1977) and Kane (1978) suggest that it may be necessary to begin examining the athletic dimension and the personality dimension in more specific and less global ways.

Experience shows that among the greats in any area of activity including sports, it is perhaps possible to find persons who possess different psychological characteristics. This supports the argument that trait psychology alone cannot predict success in sports. Contrary
to this there is evidence to support the view that trait psychology is useful to an extent in the description, explanation and prediction of behaviour.

It seems important to have some understanding regarding the reasons why some individuals prefer certain types of activities while others opt for activities of different kinds. Some psychologists state that no definite behavioural pattern can be detected among individuals who enter and continue to remain in sport. They hold that by modification of certain personality traits over time or by rejection and elimination of inappropriate patterns, only some develop a pattern that helps them retain interest in sports and progress satisfactorily. At the same time, it is conjectured that particular personality characteristics motivate and sustain interest in learning and succeeding in selected sports skills and that such learning and success cause further distinctions among the athletes associated with various sports. This view has led to a feeling among some sport psychologists that certain personality-types 'gravitate' toward certain kinds of sports, and, hence, there is a "Football type" or a "Basketball type".

Participation and excellence in sports generally seems to be the pursuit of the sensation seeking extrovert
who by necessity craves for adventure and social recognition. Hardman (1973) comments that sports is played for pleasure and much of this pleasure lies in the arousal of emotions. It could, therefore, be argued that the emotional person is more likely to turn to sport to gratify his need for emotional stimulation than is the un-emotional person.

There are some authorities who believe that heterogeneity in traits amongst the team members may help in better performance e.g. if one player is quick of perception, other is more persistent and yet another is more aggressive, the team is better equipped to excel. Kane (1966) supports this view when he says that personality heterogeneity may serve a positive function in team sports: cool, analytically inclined players integrated in a team with impulsive players have obvious advantages.

Kirkcaldy (1982) reports that attacking players exhibited higher level of emotional instability than defensive ones. In addition, the more offensive players were liable to be more extroverted. This suggests that the tough-minded, sensation-seeking, emotional "attacker" probably has a very different role from the relatively less extroverted, stable mid-field player. The fact that defensive player is equally aggressive and hostile substantiates the commonly observed trend that in highly competitive team sports, defensive
The heterogeneity in a team seems to emerge from the demand of different roles to be performed in a team. It is reasonable to think that different events in sports have different requirements for top class performance. Such requirements include the psychological characteristics of the athlete.

A certain combination of personality traits is associated with outstanding athletic accomplishment and this seems to occur within the family of athletes. Even these traits indicated considerable variation from sport to sport (Cofer, 1960; Havel, 1958; and Ogilive, 1968). In other studies, it was found that certain psychological traits distinguished a high level performer from an average one (Jokl, 1968; La Place, 1954; Kroll et al, 1968; Slusher, 1964 and Johnson, 1972).

Extraversion/Introversion, Neuroticism

In his experimental series (Pavlov, 1927) showed that the characteristics of the nervous process (excitation and inhibition) were responsible for behavioural differences among the animals. His study on dogs using the conditioned reflex method established three different characteristics which determine the type of higher nervous processes: (1) strength of excitation and inhibition; (2) balance in the said process; (3) mobility in these processes, that is
the capability for quick switching from one to another task (excitation and inhibition).

These generalizations with regard to the types of the nervous system of dogs are applicable to the human beings as well. While postulating a theory of individual differences, Eysenck (1967) states that human beings differ with respect to (1) the speed with which excitation and inhibition are produced, (2) the strength of the excitation and inhibition, and (3) the speed with which inhibition dissipates. These differences are the properties of the physical structures involved in making stimulus - response connections.

Sports behaviour is related to excitation/inhibition balance and the arousal produced as a result of the effect of situational variables on the individual. Whiting (1973) noted that the degree of conditioning of an individual reflected by his relative standing vis-a-vis extraversion/introversion and neuroticism has significant relevance to movement behaviour, particularly in 'fear' situations.

The implications of research on differentiating individuals on the basis of strength of their nervous system is that the individual with a weak nervous system is an individual with high arousability. Such individuals will show a deterioration in performance under conditions of high arousability, while their performance may improve under conditions of low arousability. It is, indeed, tempting
to equate introversion with the 'weak nervous system'. However, the extravert functions better at a high level of arousal - e.g. in top-class competitions. Due to his 'stimulus hunger', the extravert would find the game-setting with people around advantageous to his performance. For the extrovert, social conditions act as a 'drive' which may not be true in the case of an introvert.

Describing the biological basis of extraversion/introversion, Eysenck (1967, 1970) maintained that Ascending Reticular Activating System is the structure in the nervous system that forms the basis for individual differences in Extraversion/Introversion. This formation maintains the cerebral cortex in a state of arousal in response to external stimulation. This state of arousal is higher in introverts than in extraverts, and it is mediated by low thresholds for incoming sensory stimulation in introverts, and by high thresholds in extraverts. There is considerable support for Eysenck's theory, both from physiological and psychological experiments on learning and conditioning, perception and sensory thresholds and motor-movements (Hill, 1975; Strelau, 1980 and Gray, 1970). Eysenck (1964, 1967) postulated that this differential in arousal is responsible for most of the experimentally observed differences between introverts and extraverts.

According to Eysenck and Eysenck (1968, 1975),
neuroticism as contrasted with emotional stability is similar to anxiety. It refers to emotional overresponsiveness, emotional liability and liability to nervous breakdown under stress. Differences in the threshold and activation of the visceral brain are presumed to be the physiological basis for individual differences.

Eysenck divided personality into three dimensions, each relatively independent of the other. These dimensions are extraversion/introversion, neuroticism/stability, and psychoticism. The dimensions of extraversion - neuroticism emerge as the most relevant and have considerable statistical, theoretical and research evidence in literature. Psychoticism refers to behaviour that is bizarre, personal, hostile and anti-social (Wilson, 1978).

Most of the findings of the research on personality reveal that sports persons are generally extraverts. This has been supported by the general observation that extraverts need stimulation to a greater degree than do introverts. The former seeks to produce a kind of response resulting in a higher level of stimulation. To study comparative psychological differentials of individual and team athletes extraversion-neuroticism and psychoticism have been selected as measures of psychological behaviour.

Adjustment

Psychologically, adjustment implies a constant
interaction between the person and his environment, each making demands on the other. Sometime adjustment is accomplished when the person yields, at other time it is achieved when environment yields to person's constructive activities. In most cases adjustment is a compromise between these two extremes and maladjustment is a failure to achieve a satisfactory compromise (Robert W. White, 1956).

Sports - an excellent vehicle for socialization - has been accepted as a channel for sublimation of aggressive tendencies and reduction of tension. Originally, what started merely as past-time and simple play behaviour has today assumed a social, emotional, educational and national significance unsurpassed by any other activity. Loy (1968) said that sports as a social institution refers to the social order comprising all social organisations in the society that are responsible for organising, facilitating and regulating human actions in sports situations. Games and sports constitute an ideal setting for the development of desirable personality characteristics, such as confidence, sociability, cooperation, leadership and personal adjustment. However, little is known about the interface between socialization and sports participation (Loy, Mcpherson and Kenyon, 1978; Sitzen and Sage, 1982).

Explaining the socio-psychological phenomena in
sports, Frost (1970) remarked, "It is critically important that those studying the psychological concepts as they apply to the area of physical education and coaching be carefully attentive to the fact that social and cultural forces are operating constantly and a meticulous understanding of these is absolutely necessary in any attempt to unravel the many factors causing and revealing behaviour and its changes in sports setting."

In competitive settings an athlete has to put certain checks on his innerself i.e. psycho-regulate himself, in order to produce best results. At the same time he must counter the provoking stimulus rationally. Such experiences of overcoming stress, strain and aggression may help him make the required emotional adjustment in routine settings. Similarly, the experience of sportsmanship, loyalty, cooperation and leadership etc. may lead to better social adjustment.

During the competition at crucial movements, an athlete has to demonstrate emotional stability in order to execute the skill perfectly e.g. while taking a penalty-kick in football or a penalty-stoke in hockey or free-throw shots in basketball. Similarly, while going for a smash in volleyball or for a raid in Kabaddi, one has to make many psycho-physical adjustments. Likewise, the athlete has to regulate himself socially and emotionally, while
attempting to leave the blocks in sprints, or to take-off in jumps. In wrestling, boxing, weight-lifting, and gymnastics, the regulation of emotions helps an athlete to bring out his best. Social experiences gained through a variety of predictable and unpredictable situations produced by individual and team sports help the athlete in home life and education. The influence of the experiences of various sports on the adjustment vis-a-vis the influence of adjustment on the performance of an athlete has yet to be studied specifically. The levels of adjustment required for individual and team athletes seem to be different.

To explore the phenomenon of adjustment of individual and team athletes, the investigator has selected social, emotional, health, home and educational dimensions of total adjustment for this study.

Vigilance

Along with the other socio-psychological factors, cognitive factors too make a vital difference in the performance of an athlete. Dr. Konzag (1988) (German Democratic Republic at the 3rd National Conference of Sports Psychology of India) emphasized that cognitive factors have very high positive correlation with performance. These factors are basic because the cognitive ability cannot
be enhanced significantly by training. Hence these factors should be given due weightage while selecting athletes for sports participation. Professor Singer *(1988)* from United States, in his key note address, elaborated Dr. Konzag's point that cognitive factors help an athlete in better perception, analysis, image formation, and in quick and correct reaction. For this study, vigilance has been selected as a dimension of cognition.

Vigilance alerts mind and body to readily respond to any event external or internal to the individual. According to Siddle (1972), a vigilance task requires subjects to respond to a critical or wanted signal which occurs randomly against a background of neutral or unwanted events. Considering its practical implications in many tasks, research in vigilance has acquired great importance. In team sport and in individual events such as wrestling, boxing and gymnastics vigilance has been found to be highly significant.

Since sports events differ in nature, they demand


specific cognitive structures from the participants. The levels of vigilance and its nature appear to be different in team and individual events. In team sports, restriction on time and the fast moves of the opponents complicate the process of information intake and hence require of the performer an optimal display of vigilance.

Vigilance seems to be skill-specific. In the open skills, the performer is required to attend to external and varying stimuli consistently during a competition, while closed skills demand inward direction of attention to alert the different muscle groups involved in the performance of the skill. In view of the different patterns in vigilance to be displayed by athletes as a function-event-specificity, the investigator has treated vigilance as one of psychological characteristics for this study.

There have been differences of opinion among the scholars in the description of personality patterns of athlete, the cause of initial entry of an athlete to a particular sport, the suitability of behavioural patterns to various sports, the essential levels of adjustment and vigilance for different sports and for individual & team athletes. Since the athletes in team games and individual events have been found to be related to different psychological characteristics, in most cases these characteristics have
not been studied in a composite fashion. This study is an attempt to compare the psychological characteristics of team and individual athletes. It is also aimed at highlighting the psychological differentials of successful and unsuccessful athletes of various sports groups.

Statement of the problem

This study focuses on the selected psychological characteristics of individual and team athletes. Further, the study attempts to find out inter-sport differences in the chosen psychological parameters; and also tries to identify and examine the differences between the successful and unsuccessful athletes of team and individual events. The problem is titled as follows:

"Comparative Study of Psychological Characteristics of Athletes in Team Games and Individual Events"

Objectives:

The objectives of the study are as follows:

1) To compare the individual and team athletes on selected psychological variables viz. adjustment, extraversion, neuroticism, psychoticism and vigilance.

2) To find out differences in the levels of the selected psychological variables:

a) between the successful and unsuccessful athletes (individual & team); and

b) among the various sports groups (individual & team).

Hypotheses

The hypotheses of the present study are as follows:

1. Individual and team athletes would significantly differ from one another with regard to adjustment (home, health, social, emotional and educational).
2. Successful athletes would differ from unsuccessful athletes with regard to adjustment: home, health, social, emotional and educational.

3. There would be substantial differences between individual and team athletes as regards extraversion, neuroticism and psychoticism.

4. There would be marked differences between successful and unsuccessful athletes with respect to extraversion, neuroticism and psychoticism.

5. Individual and team athletes would appreciably differ in their level of vigilance.

6. There would exist notable differences between successful and unsuccessful athletes as regards to vigilance.

7. There would be inter-sport psychological differentials among athletes of various sports groups (individual and team) in terms of,
   a) Extraversion, neuroticism and psychoticism;
   b) Home, health, social, emotional and educational adjustment; and,
   c) Vigilance.

**Operational definitions of terms:**

**Athlete:** A sportsperson competing in an organised sport (team/individual). The word "athlete" has been used throughout the present study in a broader sense for the individual who involves himself in any competitive sport.
Successful athletes: For this study successful athletes are those who have represented Panjab University in the All India Inter-University Competitions in their respective sports.

Unsuccessful athletes: In this study unsuccessful athletes are those who were selected to attend coaching camps but failed to represent Panjab University in the Inter-Varsity competitions.

Individual athletes: An athlete who competes single handed against other individuals in an individual event/sport.

Team athlete: An athlete who competes collectively along with his team-mates against a team of opponents in a team game.

Individual events/sports: Sports in which individual athletes participate individually.

Team games: Games in which a specific number of players/athletes compete collectively against equal number of opponents.

Delimitations:

The study was delimited as follows:

1. It was restricted to the following team games and
individual events:

<table>
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<tr>
<th>Team games</th>
<th>Individual Events</th>
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<tbody>
<tr>
<td>a) Football</td>
<td>Athletics</td>
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<tr>
<td>b) Hockey</td>
<td>Boxing</td>
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<tr>
<td>c) Handball</td>
<td>Cross-country races</td>
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<tr>
<td>d) Basketball</td>
<td>Gymnastics</td>
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<tr>
<td>e) Kabaddi (National style)</td>
<td>Wrestling</td>
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<tr>
<td>f) Volleyball</td>
<td>Weight-lifting</td>
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2. The study was also delimited to the male athletes only, who made the grade for the Panjab University Coaching camps in any of the above-mentioned events.

3. The study was delimited to the age group of 22 ± 3 years.

4. To study the psychological characteristics of team and individual athletes, this study was delimited to the following variables only:

I. Home Adjustment
II. Health Adjustment
III. Social Adjustment
IV. Emotional Adjustment
V. Educational Adjustment
VI. Total Adjustment
VII. Extraversion
VIII. Neuroticism
IX. Psychoticism
X. Vigilance
Limitations

The present study had its own limitations as far as the selection of subjects was concerned. Prior to the All India Inter-University competitions, Directorate of Sports, Panjab University, Chandigarh, used to organise coaching camps in each sport discipline. The probables for these coaching camps used to be selected by the experts of duly constituted selection committees. The subjects for this study were the ones selected to undergo coaching camps in their respective sports in the session 1986-87. The scope was also limited to the study of the comparative psychological differentials of the individual and team athletes, successful and unsuccessful athletes, and that of athletes of various sports groups only.

Significance

In this study a multi-dimensional approach has been adopted to understand the psychological make-up of individual and team athletes and successful & unsuccessful athletes. An attempt has been made to study the behavioural aspect of personality, socio-psychological aspect of adjustment, and cognitive aspect (vigilance) of an athlete. The analysis of data of this study may provide a useful tool for identification, placement, selection and preparation of athletes for competitions. The comparative analysis of psychological characteristics may provide a precise
understanding of the athletes of various sports groups belonging to individual events and team games. Further, this understanding may lead to the facilitation of the techniques to develop those characteristics which have some bearing on success.