CHAPTER I

INTRODUCTION

In the modern world, sports is becoming a highly specialized competitive area of human activity. Every nation is trying hard to produce sportsmen who could bring laurels home in various competitions at international level. Such honours in sports have already acquired a certain prestige-value for participating nations. It is natural, therefore, that improving the standards in the field of sport has become a focal point of attention, study and effort on the part of physical educators, coaches, trainers, and research workers almost in all the countries of the world. In this effort, various disciplines like psychology, education, medicine, physical sciences etc., are getting more and more involved. The result is that achievement levels of athletes and sportsmen in international competitions are improving year by year. In the last Olympics (1984) at Los Angeles, many old Olympic records were broken and new ones established which, as could be expected, have already been smashed by sportsmen/athletes in the recent Friendship '84 held at Prague (Czechoslovakia), Markovo (USSR) and Berlin (East Germany).

The available literature concerning the concomitants of participation in sports/athletics is quite understandably bound to contain a certain degree of indeterminancy since almost all
this research is based on cross-sections or correlational designs. More specially, it seems very difficult to establish the temporal sequence between sports involvement and psychological and sociological characteristics. However, it is observed that the individual becomes progressively different from his fellows with every maturational change and accompanying environmental experiences.

Role of Sports Psychology

Psychology, as a behavioural science, has made a great contribution in the effort of coaches, trainers and physical education teachers to improve standards in sports. It has been no surprise to sports psychologist that European nations, such as East Germany, have improved their performance in international sports competitions. These countries have recognized the importance of mental development as an accompaniment to physiological training. Similarly, the Soviet Union and Czechoslovakia are examples of countries in which psychological training has become an essential part of the athletic conditioning regimen for all athletes.

In this connection, Dr. Llewellyn and Blucker (1982) observe that since the 1976 Olympic games, several programmes for the psychological assessment and preparation of athletes have been undertaken and publicized in several European countries. "Given these recent developments in sports", the authors write, "it is clear that coaches must be as familiar with sports
psychology as they are with team strategies and techniques". Once the coach understands the role of physiological variables in sports, he must learn the role of psychological variables. This knowledge certainly helps a coach in preparing and training athletes more purposefully and effectively. Literature on sports offers numerous examples of athletes, coaches and physical educationists applying principles of psychology to improve performance. Like many other training techniques initiated in professional sports, the sports psychology has begun to occupy a prominent place in the design of high school, college and even youth sports programmes.

According to Suinn (1976) Jean Clavde Killy, a three time winner of Olympic gold medals, reported that his only preparation for one race was to ski (the course) mentally. Suinn uses several techniques of sports psychology to enhance performance. Of course, the methods were tailored to meet the needs of each athlete.

To make organized athletic programme better and more attractive to students, the psychological aspects of sports must be studied in as conscientious and constructive a manner as the physical aspects of training. The dictum "Sound mind in a sound body" has had considerable physical and psychological support.

**Sports and Personality**

To a physical educator, it seems important to have some understanding of why some individuals prefer to or respond to certain types of activities while other individuals may go in for
activities of quite different type. It would seem to be of value to a physical educator to know more about the personality characteristics of individuals pursuing a specific sport. Perhaps they could be guided into some activity somewhat similar, but at the same time differing in some respect, so that a specific type could be benefitted.

Specific type of athletic activities were associated with characteristic personality traits. In Griffith's Psychology and Athletics, the following statements are found:

"There is something about close bodily contact that put boxing and wrestling under indebtedness to the emotions just as was the case in football. Football teaches courage, team work, fair play, stick-to-it-iveness, regard for personality and control of emotional life. Baseball is a more intellectual game than football. Basketball provides also a way of learning steadiness, control and fine training for mental quickness and alertness."

Any characteristics that are found to differentiate athletes from non-athletes, or different groups of athletes from one another could be due to selectivity in the sense that certain types of persons are attracted to athletics. Both the processes, selectivity and socialization, tend to have a reciprocal relationship. It indicates that the behavioural and attitudinal differences that are cited in the literature may be attributed to an interaction of the socialization process that takes place within sports where specific values associated with sports are emphasized and the selectivity process at the entry into the athletic/non-athletic
tracks as well as the screening out the athletic stream as it becomes increasingly essential.

Ibrahim (1967) notes that a general opinion was found to exist among many physical educators and mental hygienists that participation in athletics makes for wholesome personality. Statements to this effect have also been made by many others including Heaton (1929), Blanchard (1930), Lloyd (1931), Voltmer and Esslinger (1938) and Watson (1938).

At the same time, there were opinions in the literature which questioned the influence of athletics on personality development. These views are contained in books by Witty - Skinner and Basset (1934), Cole (1936) and Slavson (1938).

Rushall (1970) also feels that "knowledge of the personality of individual is important for maximizing individual responses". He has made the following suggestions for the use of personality information:

1. A provision of better understanding of an individual's behaviour tendencies. This information can be used to predict behaviour and to eliminate situations that will produce undesirable behaviours.

2. Physical educator-coach-player interactions can be better effected by producing situations which will eliminate undesirable consequences.

3. From the above two statements, it can be asserted that player manipulation may be improved to the extent of trying to maximize training and competitive performance and participation. This would lead to a rise in the efficiency of the training system or programme.
(4) If a relationship between personality and physical performance exists, one could differentiate, for selective purposes, between players of equal skill.

(5) Repeated testing of players gives an indication of change in athletes. The coach can then readjust his player control procedures to these changes.

Although these suggestions seem feasible, the application of personality information to athletics remains difficult, principally because the traits identified by psychologists seem to defy specific definition, particularly when the same trait is defined differently by different researchers. What physical educator/coach must understand is that by the time children enter organized athletics, their personality traits are developed. These traits may be affected by experience, but the foundation has been laid. Each child has certain behavioural tendencies, tendencies that are partly inherited, partly determined by environment.

King and Chi (1974) studied the relationship between personal characteristics and athletic involvement. The findings indicate an affinity between personality characteristics and athletic participation.

Play boy (1976) found that athletes tend to be more extroverted than non-athletes.

Layman (1968) concluded in her study that physical fitness and sports do have a positive influence on emotional well-being. Several other studies, too, have been guided by the theoretical assumption of an affinity between athletes and personal characteristics.

A few studies on female athletes have been done by Whesnas Lakie (1962), Tbrahim (1967), Kroll and Gramshaw (1968), Malumpy (1968), Bird (1970), John (1970), William (1970), Burdeshaw (1971), Foster (1971), Johnson (1972), Griffin (1973), Evak (1975), Kathsen and James (1976), Kulka and Pragman (1976), Neel (1976), Gruber (1978) and many others who report similar personality differences for women athletes representing different physical activities. The pattern of these differences is not consistent from one study to another. In fact, earlier sports psychologists were not quite enthusiastic about the psychological traits approach in research comparing athletes and non-athletes.

Recently, many studies have been done and the results of these studies appear to be in general agreement in case of male athletes that they are emotionally stable, aggressive, outgoing, less anxious, more self-controlled, self-confident, socially mature, tough-minded, trustworthy and conscientious. But, it is rather difficult to establish this type of profile for female athletes because of the small number of top class female athletes
and secondly because of the dearth of studies available on female athletes. So, there is a great need in Indian conditions to find out the personality characteristics of groups of female athletes.

Flanagan (1952) and Malumphy (1968) reported that girls tend to select activities according to their type of personality. Malumphy found that the girls who favoured individual sports were less anxious, more venturesome and more extroverted than girls whose speciality was team sports, more tough and poised than the non-participants but no more tough-minded than the team sports girls.

Feminity seemed to be enhanced by some of the women's individual sports. The women felt that their participation contributed to the feminine image.

Webb (1969) reported individual sports athletic women to be more introverted, self-absorbed, independent-minded, and self-assured than team sports women. The team sports women were not as self-absorbed nor as introverted. They tended to be more realistic, more emotionally disciplined, steady and practical. Socially, both groups tended to be more cool and aloof than the norm.

Anderson (1965) reported highly skilled women were more independent, and had better social ranking, but that the women ranking very low in physical performance had neurotic tendencies, were shy and had little social competence.

Because of sex differences in personality of the two sexes, the average woman athlete does not seem to drive herself as close
to her physiological limit as the average male athlete. However, this difference is a difference in group means, possibly due to social customs and attitudes, background and experience, and perhaps due to different value standards.

Certainly, there are exceptions to the statement that women do not drive themselves as closely to their physiological limit as men do to theirs.

Debbie Meyer, the Olympic swimming champion in 1968, and Vere Caslavska, the Olympic champion gymnast in 1964 and 1968, were apparently not held back in their superb performances by any psychological feeling of limitation.

Determining personality characteristics which may have some relationship to athletic performance is a relatively new approach in physical education. A great amount of work has been done in this area at the Institute for the Study of Athletic Motivation (ISAM) at San Jose State College under the co-directorship of Thomas A. Tutko, Bruce C. Ogilvie and Lelend Lyon.

On the basis of a large number of observations and evaluations of individual athletes, a number of personality traits related to high athletic achievement have been determined. These traits are: drive, determination, intelligence, aggression, leadership, organization, coacheability, emotionality, self-confidence, mental toughness, responsibility, trust and conscience development.

Profile sheets indicating the degree to which an athlete possesses these traits have been developed. Terms like extro-
version, anxiety, emotionality, toughness, poise, etc. have crept into the athletics vocabulary, and there is a general concern with understanding of the basic factors which may affect the athletes' behaviour. The educational view constitutes a very important ground for personality studies of active sportsmen. In this respect, sports is regarded as a valuable component of the educational process. Without deeper knowledge of personality traits, however, the broader objectives of education remain unrealized.

Empirically, it is possible in sports to observe different manifestations of positive personality traits. An athlete with suitable personality structure is better able to solve challenging sports situations than one not so gifted.

**Intelligence and Sports Achievement**

Many factors like personality, motivation, physical characteristics and motor abilities as well as environmental situations are regarded as having an interacting influence on an individual's selection of the achievement in various physical activities. Although variables and their effects on activity participation have been the subject of a number of studies, the role of intelligence has, to a great extent, been overlooked.

Speculation arises as to whether intelligence is related to activity participation, and if so, to what extent. If one adheres to the organismic point of view, proposed by Olson (1949) and supported by some research evidences, then one probably finds
strength in the theory of the inter-relatedness of factors pertaining to physical growth, motor performance, social adjustment and intelligence. On the other hand, much evidence is offered to demonstrate the independence of such factors.

The role of physical activity in the lines of individuals and groups within the normal intelligence range, within gifted children and within retarded children has been evaluated in terms of the extent of their physical activity as well as their relative success in such activity. More intelligent students seem to have greater activity interests than individuals with lower intelligence. The psychological elements concerned with intellectual behaviour and emotional development are important aspects of physical education. These elements are more difficult to identify, appreciate and apply in the field because they are mostly covert in their origin, though they take external manifestations. Hence, the physical educationist should know the nature and relationship between the psychological elements and physical education aspects like intelligence, motivation, practice, method of learning, guidance, knowledge of results, transfer of training, etc. so that the roles and responsibilities are characterized, through appropriate action, to the expected goals. Some of the important psychological elements and forces which influence the performance in physical education are motivation, individual differences in potentialities, intelligence, maturation and so on. Psychological elements seem to be the underlying covert factors which directly and indirectly influence the performance and achievement of the students and either facilitate or hinder their performance.
Intelligence is an obvious factor in any learning and hence the physical education teacher should understand the concept of intelligence and its impact on performance. It is better for him to measure the intelligence level of his students and present them meaningful physical tasks.

The physical educator should understand that a student who is academically weak need not be poor in sports because performance depends on other factors like interest, motivation, type of coaching, etc. He should also not entertain the idea that participation in sports and games necessarily interferes with academic studies. The physical educator should help the students get rid of this wrong notion and encourage them to improve simultaneously both in academics and physical activities.

Physical education, thus, has important psychological elements to be considered by the physical education teacher to bring about better physical performance by his students. Factors like personality, self-awareness, confidence, attitudes, perceptions, etc. influence the behaviour of a player.

Physical education provides opportunities for sensory experiences which is of critical importance to intellectual growth.

According to Guilford (1958), one of the varieties of intelligence measured by psychometric tests is Kinesthetic perception, and according to Piaget (1965), sensory motor activities are a form of practical intelligence. These indicate the importance of physical activity towards the growth of overall intelligence and to overall intellectual functioning.
Pestalozzi, Froebel, Montessori and the Macmillan sisters were able to see the importance of physical activity in intellectual functioning and produce forms of education that took cognizence of it. Intellectual participation in activities encourage creative and analytical thinking, minimizes professional assistance from the physical educator. Opportunities to make sound judgements and decisions, based on evidences and variables involved, require unassisted intelligence and logical thinking by the students. Thus, intellectually supported programme and its effects are indisputably essential for the improvement of effective sportsmanship.

It is a matter of regret, however, that in spite of its role in sports, the factor of intelligence has not yet received due importance in the field of education and training in sports and physical activities.

Case studies of athletes in various European countries indicate that those with more academic background and with higher score on I.Q. tests, as would be expected, are better equipped to engage in self-assessments of the psychological and physiological data collected about themselves than are their less educated teammates. Those less gifted intellectually seem also to have a more difficult time engaging in self-administered relaxation and activation training prior to competition. After competition, understanding the reasons for success or failure seems similarly more difficult for those athletes with lower I.Q. scores.
It is, of course, apparent that the intellectual group such as athlete has of himself and of appropriate training strategies should, to a large degree, influence his success in maintaining and improving his condition within the unfamiliar environment prior to and during high level competition.

Although this topic has not been accorded systematic exploration via published research, it would seem that it is an important intellectual dimension of superior athletic performance, one that should be accorded attention by behavioural scientists.

Cratty (1972): It is a common observation that runners and swimmers possess, to varying degree, a sense of time or pace that enables them to swim or run more "intelligent races". Whether such a quality is primarily perceptual or intellectual is debatable.

Thus, intellectually supported programme and its effects are indisputably essential for the improvement of effective sportsmanship all over the world.

Sports Participation and Scholastic Achievement

Two major themes in people's attitudes towards sports are:

(1) **Sports is an important avenue for upward mobility, and**

(2) **Sports is a detractor of academic achievement.** Research studies do not support the assumption that athletic participation has negative consequences for academic pursuits. Indeed, some of the findings provide moderate support for a positive relationship, particularly among students who are otherwise least disposed
toward academic achievement. Perhaps for these students, sports serves as an integrative function and provides a stimulus toward academic achievement that would not otherwise be present. One important finding, that emerges in the studies by Spady (1970), is that students are not likely to experience educational or occupational success if their educational identity was based primarily on an inflated athletic role. A number of theoretical explanations have been cited for the qualified positive linkage between sports and academic achievement, but many of these explanations have yet to be proven empirically.

At the college level, the relationship between sports and academic achievement is ambiguous. Since university athletic departments have a considerable investment in the individual athletes (for example, recruiting and grants-in-aid), they usually go to great lengths to see that the athlete remains eligible for competition. Autobiographical and anecdotal evidence indicates that how can one explain the differences in academic performance of athletes and non-athletes? Some might argue that the athletes are physically and mentally superior to the non-athletes. It can't be denied that there are genetic variations in physical and mental ability, but it seems better to make a social behavioural approach in tracing the linkages between sports participation and academic achievement. Some of the possible explanations, given below, are by Buhrmann (1972) and Schafer and Armer (1968):

(1) Some athletes who would not otherwise attend college do so because they received an athletic grant-in-aid.
(2) Some athletes attend college primarily because they can continue their athletic career beyond high school.

(3) Because of the prestige associated with sports, the athlete is a member of the peer elite "(Leading Crowd)" that is influential in shaping educational plans and expectations beyond high school (Coleman, 1961; McDill and Coleman, 1965; Duncan et al., 1968; Rehberg and Schaffer, 1968).

(4) By becoming a member of the peer elite through the prestige of sports, the athlete develops a positive self-evaluation that is translated into academic achievement. Researchers have noted a positive relationship between one's self image and school achievement.

(5) Exposure in the athletic sub-culture to effort, hard work, persistence, discipline, and achievement spills over into non-athletic activities such as school work.

(6) Because of their prestige, athletes are graded leniently and receive extra encouragement from teachers and counsellors.

(7) Athletes benefit from academic assistance and encouragement. High school coaches frequently encourage their best athletes to attend college. "Brain coaches" and tutors are frequently available at major universities to provide special academic assistance for their athletes.

(8) Athletes make more efficient and effective use of their limited time and energies.

(9) The superior physical condition of athletes improves their mental performance (Layman, 1968; Cooper, 1959).

(10) Some athletes strive to get good grades to be eligible for athletic participation. In fact, eligibility requirements would ordinarily preclude failing students from participation (this fact in itself makes academic comparisons between athletes and non-athletes suspect).
These explanations vary in credibility. Research provides support for some of them. But these processes are difficult to isolate for an adequately controlled analysis. For outstanding high school athletes who are recruited by major universities, several of these explanations may be applicable. Certainly, there are strong pressures on them to attend university, primarily to participate in athletics. We may here consider some of the facts which have been brought out after years of study in attempts to discover athletic ability and to predict future athletic success. In the first place, granted a bare minimum of that type of intelligence which is considered as an aptitude for academic learning, variously measured by intelligence tests, previous academic successes, and so on, higher ranking in I.Q. has little relationship to athletic success. An individual seems to have many types of degrees of intelligences, with low correlation between the various types.

However, there have been great professional athletes whose academic intelligence was below that necessary for completing the last two years of academic work in a good secondary school. One should be careful in his thinking not to confuse low positive correlation with negative correlation. A zero correlation merely means that the athlete is as likely to be above average as below average in intelligence. The type of intelligence, essential for sports success, has little relationship to the types essential for academic success. There have been world famous athletes with an I.Q. below 100, and world famous athletes who achieved highest
academic honours, and successful leaders in society after their school days were over.

**Socio-Economic Status and Sports Performance**

The socio-economic status denotes the sub-group to which an individual belongs in a society. Such a sub-group has its own typical sub-culture with emphasis on different values, mores, ideals, etc. For instance, educationists all over the world have found low aspiration level for educational achievement in the lower socio-economic stratum, as they do not get ideal images for educational attainment from adults in their immediate social environment. They lack facilities to make optimum use of educational opportunity and they have lower expectations of educational outcomes.

Stone (1973) has analyzed ethnographic data to determine the game preferences of children and adults across many cultures. They conclude that cultures that emphasize games of physical skill tend to be found in tropical regions. Their economic level is simple and basically of subsistence. Political conflict and war are also relatively absent in cultures that emphasize games of physical skill. Games such as hunting and fishing, spear throwing and archery bear a clear relationship to the valued skills for males in this type of culture.

Cultures that emphasize games of chance tend to be found in higher latitudes where there are marked seasonal changes and
cold weather. Consequently, food supplies and more problematic and shortages are common. The community size is small, and the physical location of the community changes relatively frequently. Games of chance are then isomorphic to societal conditions which are unpredictable and governed by fate.

Cultures that emphasize games of strategy tend to be more developed in terms of technology and social organization. The community size is larger and relatively permanent. Self-indulgence is sanctioned, while achievement and self-reliance are nurtured in the young, strategy-type skills are rewarded and thus games of strategy represent a logical form of anticipatory socialization.

Culture that includes games of physical skill, chance and strategy, tend to be found in the most developed of all the societies. The relationship between the micro-world of sports and the larger society is most evident in the context of socializing the young for successful adult life. Sports as a transmission belt can seemingly accommodate the complete range of human values within and between cultures.

A 1974 study by Noe and Elifson documents the relatively impoverished style of leisure among the poor. They found that the poor tend to engage in a narrow hand of leisure activities, frequently on a solo-basis. The leisure life style of the poor can be best characterized by their response to an open ended question probing what they do in their free time. Many responded that they did nothing, or just sat and relaxed, a response perhaps
symptomatic of deeper ills that reflect a general subsistence level of existence (Noe and Elifson, 1974).

Generally in the middle and upper classes, a wide variety of leisure activities are pursued as a part of the good life and self-actualization. By contrast, possession of consumer goods tends to be the means of self-validation among the lower class. It is ironic that the class that seemingly has the most leisure time available generally lacks the psychological and material resources to exploit it as a means of self-development.

Robinson (1969) stated that an individual's socio-economic status may influence his opportunity for participation, his desire to excel, his choice of activity, and his success. However, as athletic prowess enhances social prestige and acceptance, one in a low stratum may be motivated to develop his athletic prowess to gain social prestige and acceptance which is denied to him as one belonging to a low socio-economic stratum. Popular opinion seems to be that the majority of very highly skilled team-sports athletes come from the lower socio-economic classes, and particularly from families in which the male parent is engaged in physical labour. In addition, it is hypothesized that these boys from poor homes are better physical specimens are less spoiled by luxurious living and will work much harder to success in sports. Some of these hypotheses are advanced in an attempt to explain the larger number of black athletes in certain professional sports, a percentage higher than the percentage of
blackmen in the general population. It has been proposed that there are certain physical and physiological differences which favour the Negro over the Caucasian race in strength and speed.

So far, scientific research has not shown any significant physiological or physical racial superiority of blackman over the white man. Whether or not the lower socio-economic background causes a greater drive to succeed, or whether less luxury and more physical work in childhood and adolescence are factors, has not yet been determined. Studies of this problem have been inadequate.

Ralph Lepre (1962) did study the socio-economic background of the members of 21 high school football teams ranked highest in Pennsylvania during one year. He reported that, although the range of economic background extended through almost the entire scale from poverty to wealth, the average socio-economic rank was above the 80th percentile of the general populace. How much the continuous progression through high school (no chopping out) and adequate time for extensive sports practice were selective factors is not known.

Robert Lawrence (1967) concluded in his study that low socio-economic status was not a contributing factor to success in athletics as judged by his sample. According to Lawrence's findings, athletes in team-sports tended to have the same family background as athletes in individual sports. However, the team sports athletes fathers' had considerably greater sports background. There is some evidence which indicates stronger motivation, stronger drive to work for success, if the subjects have been
deprived of many things. Satiation, and perhaps the satiation from luxurious living, may lower one's drive and willingness to work long and laborious to reach high skill levels in sports. However, the 'deprived' may have fewer recreational and social outlets such as cars, club membership and accompanying facilities for entertainment, money for travel, special opportunities, drama, music, and the like. Hence, sports are their major recourse. Many of the poor have no other outlets for their energy except that furnished by the ball court or the playground.

There are other factors which may exclude the extremely indigent from athletic success, such as inadequate medical facilities and inadequate nutrition during the period of childhood and adolescent development. One of the points overlooked in much of the thinking about socio-economic level is the fact that 'white-collar' workers are often subsisting on a lower salary than are skilled labourers such as carpenters, plumbers and electricians.

There seems to be much popular opinion that the poor and under-privileged tend to be more successful in the field of sports than do those of the higher socio-economic classes. This opinion has not been corroborated by what little research is not available. Deprivation of praise and attention, for a short period, does seem to make the subject try harder at his next performance. Perhaps the hypothesis that the lower economic classes are more successful in the various contact sports may be a confusion of the type of work with economic level. Many skilled workmen who do much physical labour do not belong in the lower economic classes, at
least insofar as income is concerned. The opportunity and experience in physical work or vigorous physical activity of the children in such families, may be one of the causal factors for later sports success.

As not much bibliographic literature is available on sportsmen, hardly any data could be obtained on socio-economic stratum to which top sportsmen belong. However, such data, as is available for USA and African countries, lead to presumption that ambitious youngsters from families to low socio-economic level have powerful motivation to do well in sports to compensate for their low socio-economic origin.

Jesse Owens who won four gold medals in the Olympics was a son of a cotton picker. Abebe Bikilas who was a member of Emperor's household guard in Ethiopia, brought black Africa its first gold medal in Marathon in 1960 Olympics. Kip Change Keino who worked as a hard boy won the gold medal in 1500 metres in 1968 Mexico Olympics.

There is a definite relationship between sports activities and economic level. Water skiing, tennis, golf, camping and hiking are participated by majority of middle class people whereas horse riding and sailing are upper class activities. Football, track and field, and boxing appeal to people in lower income groups.

To sum up, we may hypothesize first that athletes may come from almost any socio-economic level, but that the majority come from homes above the average in economic conditions. Second,
the athletic background of the male parents is very often a factor related to their success. Third, luxury and ease, money and easy satisfaction of all their wants is unlikely to lead to the hard and persisting exercise essential for high level sports achievement; and finally that extension experience in physical work or vigorous physical activity during childhood and adolescence seems to be a contributing factor to success in sports.

Similarly, in India, many top ranking players of football, hockey, basketball as many top athletes, too, have come from lower income stratum, whereas cricketers, tennis and badminton players hail from affluent families. However, no studies seem to have been done on the effect of socio-economic conditions on development of proficiency in sports.

Physical education teachers and athletic coaches have made many attempts to analyse and measure the various factors which contribute to success in athletics and games. Within the field of games and sports, much emphasis has been laid upon the physical ability and skill for the success of a player. It is during the last half century or so that physical educators have speculated upon the possible inter-relationship between physical activity and various social forces.

It has now been realized that besides physique and possession of skill relating to an activity, there are many other factors such as personality, intelligence, attitude, aptitude, interest, adjustment and socio-economic status which contribute to the success of participants.
It seems reasonable to believe, on the basis of new experiments, researches and advanced knowledge in different fields, specially in physical education and games, that man or a woman in deciding upon a game or activity is attracted to it because of certain factors in his/her individual make up out of his/her social and physical background and heredity. These factors may vary with the individuals in the strength of their influence and in the form in which they appear, but they are always present. The literature, however, indicates that there are personal, social and financial factors, which influence the selection of physical education activity and games by an individual. However, nothing conclusive or definite has yet been clearly established in this regard.

The number of factors which play an important role influencing an individual's selection of physical activity or games such as the community background, rural or urban parents' occupation and educational level, income of the family, sex, age and personality traits of the individual and the social status of the family.

Justification of the Study

Since 1930's, there has been a growing interest in the description of personality patterns of physical education students, more specially with the investigations of Palmer (1933) and Duggan (1936). Later on, the researches conducted by Howard (1964) and Kane (1969) led to the establishment of a stereo-typed personality of sportsmen/sports-women and physical education students/teachers.
Though the early studies concentrated around the physiological aspects of sports performance, Singer (1969) points out that the recent studies have attempted to study the psychological aspects of sports performance. Psychological studies in sports have shifted from personality differences between sportsmen/sports-women and non-sportsmen/sports-women to differential personality differences among various sports groups.

Most of the studies including that of Karoll (1967) have used the Cattell's Sixteen Personality Factor Questionnaire. Even among female athletes, significant personality differences in individual and team sports have been reported by Malumphy (1968) and Peterson et al. (1967).

Interest of physical education teachers and researchers in psychological aspects of sports performance has obviously helped improve sports performance all over the world. This is clearly evident from the results in various international sports competitions including the Olympics. Not only in the European and other western countries, but also in India, special interest has been expressed in studying the psycho-social and environmental factors causing differences in sports performance. It has increasingly been realized that not only a sound body lies in a sound mind, but more often than not, a sound body is harnessed under a sound psychological adjustment and balance.

It has been found by the researchers that almost all the athletic activities are associated with one or more personality
traits. Several Indian researches have found significant differences between a sportsman/sports-woman and non-sportsman/sports-woman in scholastic achievement, intelligence and various aspects of personality. Yet, the one unexplored field has been personality and allied differences among sportsmen/sports-women participating in various categories of sports activities at university and national levels in relation to their socio-economic background. A study of scholastic achievement and cognitive/non-cognitive aspects of personality among various categories of sports participants will not only reveal the differences in these variables among various categories of sports participants but it will also lead to selection of university and national level athletes and their proper training, coaching and nourishment. Several studies conducted by Indian and foreign researchers (John, 1951; Woytinsky, 1953; McIntyre, 1959; Lueschen, 1963; Francis, 1970; Young, 1970; John, 1972; Gruneau, 1973; Stone, 1973; Williams, 1973; Noe, 1974; Graneau, 1975; and Yadav, 1980) reveal significant sports performance variances due to variance in socio-economic status. There was an urgent need to study the academic and psychological aspects of sportsmen/sports-women participating in various categories of sports activities at university and inter-university levels and to see the impact of socio-economic status of various categories of sports participants on their academic and psychological characteristics. It was with these felt needs that the present study was undertaken to see the impact of socio-economic background and sports performance (University participation, university position, inter-university participation, and
inter-university position in sports) on academic achievement, intelligence and personality characteristics of Indian athletes.

Statement of the Problem

The present problem for investigation is stated as under:

'A STUDY OF RELATIONSHIP BETWEEN INTELLIGENCE, SCHOLASTIC ACHIEVEMENT, PERSONALITY TRAITS AND ACHIEVEMENT IN SPORTS AT DIFFERENT LEVELS OF SOCIO-ECONOMIC STATUS'

Operational Definitions of the Terms

The terms used in the statement of the research programme of this study are operationally defined as under:-

**Intelligence**: Intelligence is expected to be so intensely related with high academic achievements that to most of the people, the two terms are almost synonymous. Intelligence, as expressed through human and animal behaviour, is a composite of mental functions. Although various attempts have been made to define intelligence, no two definitions are identical. The job of defining intelligence in a precise manner is so difficult that some psychologists prefer not to define it at all. The culture fair intelligence tests measure individual intelligence in a manner designed to reduce, as much as possible, the influence of verbal fluency, cultural climate, and educational
level. In such applications, the special advantage of the culture fair tests is that they make a cleaner separation of natural ability from specific learning and thus permit better analysis and prediction of the individual's ultimate potentialities. For description of the test as given in the manual, "Measuring Intelligence with the Culture Fair Tests", see Appendix I.

Academic Achievement:

Achievement is the accomplishment or proficiency of performance in a given skill or body of knowledge.

According to Crow and Crow (1948), "Achievement means the extent to which a learner is profiting from instructions in a given area of learning".

Trow (1950) defines academic achievement as "the attainment, ability or degree of competence in school tasks usually as measured by standardized tests and expressed in age or grade units based on norms derived from a wide sampling of pupils' performance".

In this study, the academic achievement of the subjects in the sample is determined on the basis of total percentage of marks obtained in the last public examination.

Personality Traits:

According to Cattell (1962), a trait is a collection of reactions or responses bound by some kind of unity which permeates the responses to be gathered.
A trait is usually an adjective used to describe a personality. In its simplest meaning, personality traits refer to consistent differences between the behaviour of two or more people.

'Dictionary of Psychology' by James Drever describes the term trait as "an individual characteristic in thought, feeling, etc. inherited or acquired".

The concept of personality traits is not yet so well defined in psychological literature as to be universally acceptable to all. Several researchers have undertaken the task of labelling personality traits and explaining their origin. The sixteen personality factors, the result of over twenty years of research, is probably the test most frequently used to assess the personality traits of the athletes. For description of these traits or factors as given in the manual of sixteen personality factors questionnaire please refer to Appendix II.

Achievement in Sports;

In the present study, the words 'achievement in sports' refer to one of the following, in order of their ascendancy:

(1) participation in inter-collegiate tournaments/university coaching camps;

(2) Positions obtained at the university level;

(3) Participation in the inter-university tournaments; and

(4) Positions obtained in the inter-university tournaments.
Socio-Economic Status:

According to Herbert (1977), socio-economic status in terms of primary conditions and characteristics is determined through vocation, income and wealth, home and its location, education, activities, and associations.

For the purpose of this study, socio-economic status is the status that an individual gets in society by virtue of meeting certain norms of job, income, education, type of accommodation, possession of consumer articles, etc. indicative of his ranking in the hierarchy of social scale. Details of these factors have been mention in Chapter III.

Objectives

(1) To find out independent and interactive effects of sports-participation and socio-economic status on intelligence of sports students.

(2) To study the independent and interactive effect of sports participation and socio-economic status on scholastic achievement of students participating in college and university sports.

(3) To investigate into the independent and interactive effects of two independent variables, viz., sports participation and socio-economic status on sixteen personality factors among college and university students participating in sports.
(4) To find out differences in intelligence, scholastic achievement and personality (sixteen factors) among sports students at different levels of sports participation.

(5) To study differences in intelligence, scholastic achievement and personality (sixteen factors) among college and university sports students at different levels of socio-economic status.

Hypotheses

1. There exist significant independent and interactive effects of sports participation and socio-economic status on intelligence of students participating in college and university sports.

2. Significant independent and interactive effects of sports participation and socio-economic status exist on scholastic achievement of sports students.

3. There exist significant independent and interactive effects of sports participation and socio-economic status on sixteen personality factors among college and university students participating in sports.

4. Significant differences in intelligence, scholastic achievement and sixteen personality factors exist among four groups of students having university participation, university position, inter-university participation, and inter-university position in sports.

5. Sports students belonging to high, middle and low levels of socio-economic status significantly differ in intelligence, scholastic achievement, and sixteen personality factors.
Delimitation of the Study

In both physical and social sciences, the researcher has to delimit the problem under investigation to a certain extent, for it is quite impossible either to control or include all the factors involved in it.

The delimitations of the present study are presented as under:

(1) Selection of the sample has been delimited to the population consisting of various university and national players who participated in the inter-university sports competitions held at Kurukshetra University, Kurukshetra.

(2) Only those players who participated in sports competitions and those who attended the coaching camps held at Kurukshetra University, Kurukshetra from 1978-79 to 1982-83 were included in the present study.

(3) Players who participated in various sports activities have been categorized into four groups, viz.,: (a) participants in inter-collegiate (university) competitions, (b) position holders in university competitions, (c) participants in inter-university competitions, and (d) position holders in inter-university competitions.

(4) Only a few selected psychological and academic variables viz., personality, intelligence, socio-economic status, scholastic achievement and sports achievement have been considered.
The study has been restricted to 256 men and 248 women belonging to the four categories listed under item (3) above. No non-sportsman or non-sportswoman has been included in the sample.

For purposes of the present study, the following sports disciplines were chosen for men: volleyball, handball, football, basketball, weight-lifting, boxing and wrestling. In case of women, the activities selected were: basketball, handball, volleyball, cricket, kabaddi, hockey, shooting, gymnastics and badminton.

Men in the present study participated in the All-India Inter-University and Zonal competitions held at Kurukshetra University, Kurukshetra. But in case of women, games like shooting, basketball and handball were of All-India Inter-University and Zonal level in nature and in case of other six games, viz., gymnastics, badminton, volleyball kabaddi, cricket and hockey, only coaching camps of Haryana College Girls held at Kurukshetra University were taken into consideration.