CHAPTER – I
INTRODUCTION

Physical activities including play, sports and games are not the product of modern educational system; they have been a part of man’s efforts to do things that he thought necessary for survival. Those are an outcome of his desire for creative expression of his needs. He thought that vigorous activity and his attempts to perpetrate this skills, knowledge and attitudes necessary for living effectively. There has been a fundamental human experience from the time of primitive man the vigorous activities have been one of recognized elements of every culture, along with communication, art, religion. In modern era these are attached with literature, science, education and advanced forms of Social Organization. The story of man is the fascinating story of interaction and adjustment resulting in growth development maintenance, and in fitness for efficient functioning. It is a continuous process through the periods of infancy, childhood, adolescence and adult hood. The required development takes at every stage of human living in the wake of activity. Maintenance of gains through prolonged youth and deluging of the process of delay also depend on appropriate activity. So according to this physical activity is a basic human being need.

Physical education related to main fundamental activities, such as walking, running, jumping, throwing etc. and all these activities are organized as play, game and sports. Play is an enjoyable experience deriving from behavior which is self initiated in accordance with personal goals of expressive impulses. It tolerates all ranges of
movements and their rules are spontaneous. It has beginning of a temporal sequence but no predetermined ending. Game and sports is a human activity which involves specific administrative organization and historical background of rules which define the objective and Limit the pattern of human behavior. These are activities with an agreed upon organization of time, space, training and rules that define the objective and limit the pattern of human behavior. The cores of these activities are to determine a Winner or a Loser by totaling objectively scored success. Throughout recorded history, Scholars’ have been interested in a Psyche of the athlete. Greek Philosophers linked their athletes closely to their gods and suggested that athletic excellence implied a kind of spiritual purity. More recently experimental Psychologists and neo Freudian Psychoanalyst’s have attempted to determine some of the parameters of high level Physical skill.

One spurious assumption sometimes voice is that eliciting superior athletic performance is sorely a problem of Psychological preparing the athlete ignored is the indication that superior athletes probably passers innate perceptual-motor attributes somehow different from those of Medic ore performance. If a groups of people are subjected to some practice Conditions, influenced by the personality of the same couch and encouraged a persist in their efforts by the same kind of motivating Conditions. Their final performance will differ widely.

Despite the fact that individual differences in neuron-motor make up influence performance in basic ways, the kind of environment in which the athlete practices the dynamics of interaction between team mates and the personal attributes of the performer himself all influences the quality of effort he will put forth.
The athlete’s stable personal characteristics as well as the influence of relatively transitory factors will significantly affect his performance. It has been observed in the games of the XXVII th Olympiad centennial Olympic Games held in Atlanta (U.S.A). These games presented to the world a fascinating pageant of youth from different parts of the world offered their best in terms of achievements of endurance ability and excellence in their superlatives achievements born out of meticulous planning and painstaking efforts, dogged will, motivation, dedication and preservation of sports persons.

Suinn (1976) Jean Clavate killy a three time winner of Olympic gold medals reported that his only preparation for one race was the Ski (the course) mentally. Suinn used several techniques of sports Psychology to enhance performance of course, the method were talented to meet the need of each athlete.

**Role of Sports Psychology**

Presently coaches and Physical educators have become more conscious and concerned about the psychological and sociological aspect of sports rather than merely physiological, fitness characteristics and skill in the various activities. They realized that psychological and sociological characteristics of the participants contribute more towards their success than Physical fitness. They further need to know more about principals of Motor learning, Patterns of growth and development the role of emotional Phenomena, motivation for the Peak Performance interpersonal relationship and character trails of the athletes.

Kushlor at.al (1939) emphasized saying that the players do not play with their bodies alone but they use various mental process side
by side Hall (1910), Weiter et. al. that Physical education is not an end in itself but it is for the sake of mental and moral culture. It is to make the intellect feeling and will more vigorous, sane, supple and resourceful Venek and Lratty (1970) mentioned that founder of modern Olympic movement De Coubertin wrote a book in 1913 entitled. “Essay in sports Psychology” in which he described sports as an athletic expression as well as educational tool for attaining better emotional balance.

Kane (1972) opined that “an individual’s Physical (athletic) abilities are related to his personality structure. The environment in which Physical abilities are displayed (e.g. in games and sports) constitutes the ideal Seltny for the development of desirable personality characteristics such as confidence, social ability, self reliance, co-operative and general personal adjustment. Suinn (1976) and Llewellyn and Blucker (1982) have stressed on use of specifically tailored psychological techniques to suit a particular event of sports person like many other trained techniques initiated in professional sports, the sports Psychology has began to occupy a prominent place in the resign of sports performances.

It is believed that biological capabilities of athlete have reached to the saturation point. Therefore future record will be broken with psychological approach of the competition. In the modern competitive sports, psychological factors of an individual or a team have become a much important as teaching. The different skills of a game on scientific lines. Today, the war is fought and won with Psychological strategies and not with only guns and sophisticated weaponry. Such is the case with modern competitive sports for winning a game or a race.
It is not the proficiency in skills and acquisition of Physical Process but also Psychological attributes. It is therefore well documented that performance in sports at high level is characterized by a strong reliance upon understanding the psychological makeup of the performer.

Recent increasing scientific investigations and keen observations by coaches and physical educators in the allied fields have brought to light a variety of Physical, Physiological, Psychological, Sociological, Cultural and environment factors that are taught to be responsible for success in sports. The involvement of Psychology in sports has largely arisen from a traditional interest in areas such as a personality, emotional state, Motivation, self-concept, anxiety, creative thinking, aspiration and aggression etc. There are still numerous psychological Dimensions, which directly or indirectly influence results of competitive sports are still lying unexplored.

The present researcher has made an attempt to explore non-conventional unexplored dimensions of psychology which have direct bearing on sports performance. The dimensions refer to the role of aggression and aspiration in game of Football and Hockey.

**Aggression**

Human beings are capable of wide range of behaviors. On the one hand they may show compassion and help each other, on other hand they may seek to harm each through aggressive action.

Aggression is as old as the human race beginning with Cain murder of Abel and extending throughout history, People have fought each other in tribal wars, ethnic and religious wars and in worldwide conflicts. Today, man continues to exterminate large segments of
humanity of prepares to do so. It appears that technical and cultural ‘advance’ of man has led to move violent, aggressive and destructive behavior which has led to a remarkable increase in research devoted to this Phenomenon in the last 30 years.

What is aggression and why is a commonly manifested by a supposedly higher form of intelligence such a man? The word aggression comes from the Latin root aggredi, ad (to or toward) and gradior (Walk) Literally, than, the word means to walk towards or approach to “move against” or to move with intent to hurt or harm (Mary 1970) the major problem when studying aggression in sport or any other environment is in finding an acceptable universal definition. Most Psychologists desirable aggression in terms of behavior, Johnson (1972) Aggressive behavior has been associated with destructive acts, sexual attack, prejudice, speech, genital activity. Drug and alcohol addiction sport and exercise, crying complaining waging war and so forth. Miller (1979) There is, than no simple behavior that may be describe under the rubric ‘Aggression’, obviously the term aggression carries numerous connotations whether we are studying sports or non sport behavior. Terms such as ‘acceptable aggression’ acceptable violence, controlled violence and aggressiveness are inaccurate uses of the term aggression when applied to sports context.

All Coaches are aware of the athletes who display anger toward himself, self aggression that often limits effective performance. Other athletes seem equally hampered by the tendency to aggress against others in ways that are condoned by the rules.

In context of sports, aggression may be considered within various categories or degrees of aggressive behavior. For example social Psychologists and Sociologists studying sport have often focused
their attention of hostile and aggressive behaviors of crowds and fans attending games. The incidence and magnitude of hostility of crowds and fans has attracted widespread interest research a horror. An entire book was devoted to the aggression shown by lower middle class British soccer/football fans (Williams Dunning and Murphy 1984) and Goldstein’s ‘Collection of essays’ (1983) also contain a great deal of information about the variables leading to fan violence. Other behavioral scientists have studied aggressive behavior of athlete them self.

Some contemporary work by sport Psychologists in several countries has focused upon problems that might be termed ‘Probability’ research. They have tried to ‘Tease Out’ the variables that lead to high. Probabilities of Aggression in Sports Competitions the measures of aggression have ranged from hostile verbal exchanges to fights to the number of fouls committed. Another dimension of this problem area is the suggestion that various sports differ in both the amounts and the nature of aggression of their optimum execution.

Various sports may be categorized according to the degree and type of aggression they reflect and can be arranged on a continues from those encouraging direct aggression to those in which little aggressive action may be observed.

**Figure Aggression Differs in various Sports**

<table>
<thead>
<tr>
<th>Degree</th>
<th>Direct aggression Encouraged</th>
<th>Limited Aggression</th>
<th>Indirect Aggression</th>
<th>Aggression against objects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Examples</td>
<td>Boxing, Football, Thailand Kick, Judo</td>
<td>Basket Ball, Soccer</td>
<td>Tennis, Volley Ball, Hockey</td>
<td>Cricket, Golf and Field events.</td>
</tr>
<tr>
<td>Degree</td>
<td>Little Observation Aggression</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Examples</td>
<td>Skating, gymnastics Track events</td>
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</tbody>
</table>
Direct Aggression Encouraged:-

Here in sports in which direct Physical Aggression is encouraged to a maximum Degree because here rules have and appeared to protect Competitors. Yet their intent is to encourage maximum direct Physical contact. It is true that sports of this type demand that competitions their aggressive with in strict rules but at the same time they must contain their aggression within the context of factoid consideration.

Limited Aggression:-

In game like Football and Hockey all out contact is demanded of competitors, in other sports player must aggress, but at the same times the rules marked by limit direct contact usually more in theory than in practice. Here players are to block, check and otherwise be aggressive, usually within the rules but at the times at the border line of the rules.

Indirect Aggression against opponents:-

There are several sports in which the aggression by opponents is not physically felt but is felt via indirect means. The hand ball player intestinally hits his opponent by hitting the ball hard and making it rebound against him. Volley Ball and Tennis player’s also proper missiles against one another, so that the Missile does the hitting. In this situation the player who has high needs to aggress may not play a game that contains variety of returns both soft and hard and as well as player whose aggressive needs do not express themselves in such direct ways.

Aggression directed only against objects:-

Sports that are called parallel “paralleled” belong in this category. A golf player may hit the ball in an aggressive manner but his or her opponents may only view the hostility and not ‘feel’ the hitting the ball in direct way.
Little observation Aggression or Indirect Aggression:-

Many Sports if not have any observable Aggression against either an opponent or the environment. Aesthetic experience such as figure skating may require aggressive behavior in fighting the tedium of practice. Yet there is no opportunity for the competitors to aggress against the environment or against opponents.

Aggression and Sports:-

Sports offer an ideal area of life in which to study aggression. Psychologists, Physical educators and other have analyzed the aggression behavior of athletes and sports spectators in order to better understand the effect of such activity upon participants. Some instinctive theorists believe that participation in sports provides a socially acceptable out let for aggression without the accompanying feeling of guilt. If an athlete has a high drive to aggress, sport participation may lower that drive because the athlete is given the opportunity to aggress, especially in conclusion sports such as football and Hockey and in pugilist sports such as boxing and Judo, Some have hypothesized that an athlete may escape the guilt feeling from violent expression of aggression, providing that the athlete play by rules (Beisser 1967, Husman 1970) its recommendation that sport is an outlet for aggression may be discounted as too simplistic. Smith(1971), state that when an individual is operating under stress he often becomes anxious and hypertensive. One useful remedy for this situation is a heavy boul of Physiological and Psychological equilibrium if the individual does not release this excess energy through a healthy outlet such as sports, it could be stored up and expressed later as hostile or violent behavior.
Why do athlete aggress in sports:-

A number of reasons have been proposed to explain the reason athletes engage in retaliatory aggression in sport. Aggression that transcends hard play and spirit, meaning of the rules. These reasons include those that coincide with the various theories of Aggression that have been discussed as well as various operational and situational variables the moral and ethical social climate of sports may at times condone aggression, while at the same time removing or lowering the guilt of those who aggress. Silva (1979) for example found that the basketball player who exhibited Physical or verbal aggression against opponents felt significantly less guilty than did subjects who displayed aggressive acts in a non-sports setting. Brown (1982) found that both males and females who participated frequently in contact sports were more willing to use aggression than were those who reported that they rarely participated in such sports.

In sports, more aggression may be repressed as players feel themselves immersed and thus relatively anonymous in a team context. An athlete’s feeling about individual responsibility may be coupled with other conditions, including aggressive models, to produce aggressive behavior.

Valkamer (1975) for example, obtained data that suggested aggression in the form of fouls committed, was more prevalent when players were subject to hostile fans than when athletes were playing at home. He suggested therefore that athletes may at times aggress against opponents in way that are really directed against hostile fans and their verbal abuse.

Findings by Lillman (1971) indicate that activation through exercise or other means is likely to magnify expressed aggression.
Caprara and Colleague (1986) who found that in a Laboratory context, both highly irritable and less irritable subjects expressed more aggression whom pedaling a bicycle ergometer. They concluded that physical exercises associated were highly likely to instigate and support aggression. Physical arousal through exercise, provocation and innate susceptibility to irritation frequently coverage in many sports situations.

In general, the available Literature indicates that Physical activity, sports Participation and the viewing of sport act to heighten rather than to reduce aggression. In both fans and participants. Vigorous action, combined with negative thoughts about one’s opponents of these causing some provocation will generally heighten aggression. The results of work by Tannebaum and Lill man (1975) and by Smoler (1976) suggest that heightened aggression in sports fans may result from witnessing events that justify aggression and make a seem socially appropriate and that make target people or teams appropriate ones toward which to direct aggression. It may also be caused by the fact that fans are frustrated because their teams or heroes are losing and the fans can do nothing about it.

Level of Aspiration:-

A Major goal of most coaches is to aid the athlete in achieving optimum performance. Similarly, the teachers are concerned with the student motivation to learn and perform in the physical education class. To attain these ends, Educations and Coaches employ various motivational techniques, one of which involves the setting of goals. Though it has not been established as yet whether goal setting is effective, whether some types of goal are more effective than others, or
whether goal setting always influences the performer’s welfare, there seems to be little doubt that it does avert a strong influence upon both his level of motivation and his subsequent performance. One method for examining such goal setting behavior is through the evaluation of the individual’s level of aspiration prior to, during and following performance on particular tasks, especially in terms of its relationship to achievement motivation.

Generally speaking a person level of aspiration Concerns his personal expectations his goals and the self demands which he associates with the performance on a particular task. His personal feeling of success or failure are related to his degree of achievement or non achievement which in turn affects the goals he deems important and the manner by which he sets these goals.

Perhaps most relevant is the knowledge one should have of the motivational effect that the act of explicitly stating a goal has on an athlete performance. In order to gain some knowledge of the effectiveness goal-setting as a motivational technique in sport, some understanding of the various goals which athletes have, and the effect goal-setting has in terms of feeling of success or failure in therefore necessary. The conflict a person faces when trying to decide the goals that are realistic for him- whether to attempt performance that are very difficult for him or whether to simply settle for the easier goals- is very similar to the conflict faced by the typical athlete in completive sports. Arising out of this psychological conflict are two critical problems which must be resolved by both the teachers-coach and his athlete students. What factors determine a person’s level of aspiration’ and what are an individual reactions to achieving or not achieving his particular stated level of aspiration.
Frank (1935) provides what is generally the most accepted definition of level of aspiration.

“The level of future performance in a familiar task which an individual knowing the level of past performance in that task, explicitly under lakes to reach.”

Early studies by Dembo (1930) and Hoppe (1930) were the first empirical attempts to describe and explain the nature of goals, goals setting behavior and the dynamics of anger. Information’s arising from these studies indicated that the degree of a person’s satisfaction or dissatisfaction associated with performance on a task is related to his personal level of aspiration, and that people who explicitly state their aspirations tend to be confused between momentary and ideal goals. It was also felt that goals, as phenomena, possess an inner psychological structure which causes success and failure to be understood as feelings aroused by attainment or non attainment of personal goals, rather than as externally set standards. Goals to most people are ends in themselves, not means towards various ends.

The standard techniques for measuring level of aspiration revolve around asking a person to explicitly state, “How will he intends to do or thinks he can do in a subsequent performance. These techniques operate within typical sequence of events as diagramed below:-

First Performance  Level of aspiration is set  Second Performance  Psychological response to second Performance
<table>
<thead>
<tr>
<th>Goal Discrepancy</th>
<th>Attainment Discrepancy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feeling of Success or failure</td>
<td></td>
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</table>
Ideal Goals VS Action Goals:-

From the above sequential series of events Lewin et al (1944) felt that the level of aspiration presupposes a goal which has an inner structure consisting of:-

1. An ideal or ultimate goal which the person hopes to attain sometime in the future.

2. An action or momentary goal which the person tries for because of the seemingly unobtainable ability of the ideal goal- level of aspiration, than is concerned with the action goals and is influenced by the relative strength of three basic needs:

   The need to make the level of aspiration approximates the level of future performance as closely as possible.

   The need to keep the level of aspiration as high as possible regardless of part performances.

   The need to avoid failure, Level of aspiration represents a compromise between a person’s evaluation on his ability and his desire to do well.

Frank (1935) felt that stating a level of aspiration is usually a threat to a person’s self esteem because of the open commitment he has to make a future performance.

It is also derived from the sequence are two types of discrepancy scores. (1) Goal discrepancy, which refers to the difference between a person level of aspiration and his past performance and (2) attainment discrepancy, which refers to the difference between level of aspiration and subsequent performance. The former gives one information on how confident a person is and whether he is oriented towards success or not.
and the later tells us how accurate he was in his evaluation of both his ability and his aspirations, Robinson (1964) and Atkinson (1964) have found that persons with a high need for achievement set moderate realistic and positive level’s of aspiration. And those people who possess a high fear of failure often set their Level of aspiration, so low that they cannot possibly fall or so high that there is no stigma attached to failing. In both cases those people are protecting themselves from feeling of failure. By choosing realistic intermediate goals, a person is exposing himself to the risk of failure. Athletes than, who set moderate realistic goals in their events or sports, are portraying high needs for achievement and he doing so, are indicating less fear of failure then if they were always pointing towards something beyond them.

**Reaction to Success and Failure:**

The research confirms what one would expect namely, that failure to reach a Level of aspiration on subsequent performance leads to a lowering of level of aspiration for the next performance where as success cause a moderate rise of aspiration Level. This is obvious in sports, where both individuals and teams are losing several games or events connectively, tend to set their aspirations lower and show significant decreases in motivational level: level of aspiration is a valid index of a person’s feelings of success and failure only when the person has a free choice of goals; if the goal is set before hand (as it often by coaches and parents for their athletes.), than the subjective probability of success is a better test of feeling of success and failure. To use goal setting as a motivational device with athletes than one should allow the individual to realistically appraise himself and set his own goals.
Studies concerned with generally and specificity of level of aspiration indicates that not only personality variables (such a need for achievement and fear of failure) but also past experiences in specific tasks affect the level of aspiration a person sets. A person with high need for achievement would always tend to set high levels of aspiration in any task except one in which he has a definite past history of failure. It is thus important for the coach to discover any particular areas of weakness which his athletes may have in their past history before jumping to conclusions about a boy’s performance.

Other factors which an important effect is the reference group with in which the person is performing. Individuals will raise their level of aspiration if they are performing below the average performance of a reference group which have consider inferior and will lower their level of aspiration and of their performance is better than a group performance serves of a framework for the setting of level of aspiration in individuals; again the significance for athletes is almost direct if the performance of a superior player starts to un-explainable decline, he may be sub-conselously playing down to the average performance of the team because he fears censure from his teammates.

A person set his level of aspiration in private or in public also in fluencies how high or low he sets his level of aspiration. People try to avoid the loss of self esteem when stating their levels of aspiration in front of other people, simply because one tends to be sensitive to the opinions of others and failure in front of them is harder to rationalize. This usually results in higher levels of aspiration being set in public than in private.

Levels of aspiration have little motivational significance and are primarily rational judgments of how well the person thinks he will perform.
The standard techniques for setting a level of aspiration calls for the individual to make some types of statement of his future performance. People interpret twist in three basic ways. (1) they can take it into mean the minimum score which they would undertake to better. (2) They can set their Level of aspiration at the maximum which they hope to come close to and (3) They can set it at a level which they expect the average performance to be ‘Hope and expect’ interpretations that individuals make have different effects on stated Level’s of aspiration and performance.

Both adults and children who participate in sports and physical activity pre-evaluate their chances for the success in any given performance. Success is relative and depends not only upon the person’s ability but also upon his evaluation of that ability and what he thinks is a good and reasonable criterion of performance to aim at both personality and past experience affect a person’s goal setting behavior and this in turn influences his performance. If coaches and athletes, teachers and students can together accurately evaluate the individuals goals there is little doubt that performance can be enhanced.

An individual Level of aspiration reflects how optimistic he is, how realistic he is and how confident he is about his ability. If it is consistently high and positive than in sports the individual is generally expected to do guilt well. It is a low or negative most of the time; an effort must be made to analyze the reasons. If Level of aspiration is properly manipulated by the coach and the athlete, It can be used as motivational device to improve performance According to Brehn and Cohen (1962), such a commitment Leads to a heightened implications of the choice. The person makes i.e. explicitly committing oneself to a goal, coupled with knowledge that failure will threaten self esteem, in
itself causes the increased motivation. The Psychological tension caused by putting oneself on the spot is uncomfortable (cognitive dissonance) thus forcing the person to seek he relief from the dissonance by actually achieving his stated goal. Goal-setting forces the athlete into commitment, a dissonance-producing situation which forces him to achieve.

In order to improve in athletic performance one must constantly be trying towards goal that are always slightly beyond one’s current ability. Goal setting puts this requirement into real terms-setting level of aspiration quite high acts as an incentive in itself, so that successful performance become an important and rather than a means toward other ends doing well becomes as important as the consequences of doing well. This is doubtly important with young athletes because one can remove the commitment pressure of winning of one can convince the child of the sole importance of top individual performance. Such a reorientation of emphasis not only puts motivation into move sensible terms but also directly improves performance. Coaches and teacher in Physical activity and athletes must be aware of the importance of putting their performers and athletes into only realistic performance situations- those situations in which the child can attain reasonable improvement. Successes which come too easy or repeated failure contribute nothing to either an individual’s Level of motivation or his improvement in performance. A close examination of the performer’s a goal-setting behavior can serve as an accurate indicator of desire for achievement and Level of his aspiration.

**Role of Physiological Aspects:-**

Improvement that are inherent in the relationship to increase stature to increased power, it has been demonstrated possible by
modern method of training for the average individual as well as the
selected athletes. The capacities of the lungs and the cardiovascular
system which increase the ability to intake the air and to utilize is
oxygen more efficiently and to increase strength with a greater
understanding of all those physiological factors, that are affect
performance. It is now also possible to utilize selectively those are
favorable and minimize those are unfavorable, such as heal and stress.

In the world of sports, every participating individual and
spectator generally, eye to the positioned athletes and they also became
in main lime-light in the field of sports. The coaches trainers or
selectors at various levels generally considered the performance in the
trail and qualifying competitions, where as the physical fitness and
Physiological basis most of the time as ignored variables- than a
compulsory variables for an athletes. It has developed to such a high
degree scientifically that no physical education personal or even player
can afford to neglect the application of scientific training and their
principles.

Malhotra et. al. (1982) indicated that high competition sports are
called for supreme human effort, that body is capable of or trained to
perform and in such efforts the heart beat is generally raised up to the
Level of 180 strokes per minutes.

Berger (1980) stated that Physiological parameters involved in
oxygen transport were compared in men and women. Similar aerobic
capacities or maximum oxygen up take during physical activity. If
parameters of cardiac output divided by body weight, hemoglobin
concentration and body fat were assessed to detect differences that
might exist due to fitness Level and classification of sex the statistical
analysis indicate that cardiac output increased with fitness Level and
was greater in Men than female. Cardiac output divided by body weight, increased in fitness Level showed no difference due to rest. Hemoglobin concentration has greater in man but did not vary due to fitness Level. The percent body fat was greater in women and due to this there is decreased fitness level in them.

Testerman (1987) conducted a study to examine training and detraining effect on selected physiological measurement of fitness of adult black women. Pre-post and determine post measurement were taken on body weight, heart rate, blood pressure and some of skin folds (Suprailliac and thigh) and predicted vo2 max. The study was conducted in four stages and two detraining session. Training was given either by walking, jogging or aerobic dancing. Three time per week for 12 weeks at 75% to 90%. He found that trainee adjusted maximum in heart rate on determining period was for 10 weeks and a second period to 12 weeks. Data analyzed by factorial ANOVAs, Predicated vo2 max was significant increased of the training was either maintained or reduced to the level of pre-training though detraining skin fold thickness were significantly reduced during training and detraining period or there is stabilized or rotation to personal and training levels. Body weight, heart rate and blood pressure (Both systolic and diastolic) underwent found no changes from training to detraining based. Cisar (1986) stated that the overall group of subject. Factor analysis of the Physiological variables identified three common factors underlying the highly inter-correlate physiological determinants of distance running performance. He found that Physical development; body fat and Muscular Power through multiple regression analysis for the prediction of 2 min runtime. If resulted in R=0.92 and S.EF- 1.87
min of variables selected in stepwise regression. He found V02 Max accounted in 52% in 2 min run time, followed by additional accounted for variance of 20% B.W. 5% by R.E and 2 % by Ant in adolescent age group. The significant variables in the predictions 2 min run time in the age group of 15-17 years. The results indicated that different Physiological variable were important to distance running at various stages of growth and development in adolescent age group.

Physiological factors such as respiratory capacities are helpful to analyze for the development of aerobic and anaerobic capacities to study the intake of air and out flow of expired air this will give us and to determine the maximum intake of air in liters per Kilo of body weight per minute (Vo2 Max) which will give us the most accurate estimation of an individual respiratory capacity and endurance.

**Cardiovascular Capacities:-**

The efficiency of the heart depends on the ability to increase its output substantially during exercise. It does so by increasing heart size, its thickness of heart muscle wall and in the volume of its chambers. An increase in the number of capillaries in the lungs and in those muscles, which facilitates the exchange of oxygen and carbon dioxide. These changes occur in response to physical exercise. The limiting factors are uncertain, but it is estimated that the capillary surface may be doubled in both areas as the results of training. Cardiovascular capacities also relate to an increase in the total hemoglobin of the blood and increases in plasma volume. It also affects the viscosity of Blood.

Not all of these factors which affect human performance are susceptible to easy measurement. In addition to these Physiological
factors, there are many other factors such as Anthropometry, Psychological, environmental and technical, which affects the human performance.

The present study is considered with various Physiological variables, so as to compare among foot Ball and Hockey players. The following Physiological variables are taken:-

A. Blood pressure (Diastolic and systolic)

B. Pulse Rate (Resting)

The physiological aspect of human being is to increase the ability of the Body to get oxygen in sufficient quantities to the muscle cell. It can do so in several ways by increasing the rate of breathing by increasing the depth of breathing.

1. By increasing of rate at which oxygen is taken from the air in the lungs into the blood.
2. By increasing the amount of hemoglobin available for oxygen transport.
3. By increasing the rate of blood flow.
4. By increasing the rate at which oxygen is unloaded from the blood at muscle cell.

The rate of breathing can be increased voluntarily, but during vigorous exercise. The increase of largely involuntary probably causes by the effect of Blood lactate on the respiratory center. The mechanism probably also control the depth of breathing and all these depends on the strength of respiratory muscles. The physically fit person have respiratory muscles must be well developed to allow maximum intake of air, the rate at which oxygen is taken into blood from the lungs is determined by the Pulmonary diffusing capacity athletes in training.
show to meet only an increase of blood flow. It’s also increased in total blood volume. The rate of blood flow is increased by increasing the heart rate and its stroke volume. The rate at which the heart is most efficient various from individual to individual but in young adult Physical fit should have volume 180 per minute.

The rate at which the heart is working in a most efficient way various from person to person.

The rate at which oxygen is unloaded at the cell depends on the partial pressure of oxygen in the blood and in their cell. These changes are reversible when training stops. The efficient delivery of oxygen to the muscle cells and their adequate supply of nutritive elements derived from food substances. This is possible to athletes by their own training or work load adaptation.

**Anthropometric Variables and Performance**:-

The purpose of this study is to find out the Anthropometry potentially of Foot Ball and Hockey players as these considered the most important factor for designing of the norms to select talent for these games. Without proper identification of talent, it is impossible to achieve the desired goal.

Anthropometry constitutes the earliest form of measurement in Physical education; as one might surmise study of the human Physique and its proportions began many continue ago. The early beginning can be traced from the remote civilization of India, where a treatise called’ “Silpi Sastri” analyzed the outline of the body by dividing it into 480 parts. Anthropometry evolved in the quest to determine the ideal body proportions, artists and sculptors directed their study to it as shown by the art work in early civilizations.
Anthropometrical measurement for assessment of Physical status was expanded quite naturally to include consideration of body types and the relation of Physique to one’s health, immunity from disease, postures, Physical performance and personality qualities. Hippocrates first realized and classified human beings according to two basic physiques long and thin or shoot and thick Kretschmer, the father of modern body or somatic type, defined three types by adding an in between and referred to them as ashenic (Lean) athleteic and Pyknic (heavy).

Presently anthropometry considers individual differences appraises each subject relative to his structural differences and determines his potentialities in light of those structural characteristics measurement of the body, which include in size, weight, limb length, width and circumference. These specific measurements of the segments reveal the relationship between anthropometry and performance. These body segments help the top athletes perform in aid require for the particular performance accordingly, the body segments have a significant place in the field of sports activities, and incorrect body proportion may lead to bad sports person to make size and shape of the body to perform high skill of the game the parameters accommodate physical proportions and physiological efficiencies.

A Hockey and Foot Ball player like other sports person also requires a right type of Physique and mental makeup. The players of these games shows have ecto-mesomorphic characteristics of the Physique, which can give the advantages to the player for making hit and kick to the opponent over 50 mts. One of the meso-morphic characteristics is the height of these games which should be 5.8” to 6”
with weight between 75 to 85 kg along with the body strength, which dominate any kind of sports and the execution of the skill.

The most elementary principals of martial art requires a exponent to more quickly in the hockey and Foot Ball field to make a great variety of hit, kick and variety of movement makes tacking the opponent together these striking actions with a series of body movements to maintain the speed and power. Human performance is a combination of many variables and one of them is the structure of the body. Mostly the players of Hockey and Foot Ball able to produce the power in their kick and hit and their striking techniques require more strength and power along with speed to overcome some of their deficiencies.

The size of the human body varies in many ways and depends upon the age, sex, race and geography. This research is aimed at obtaining knowledge about real qualities of body measurement and through analysis of the effect of genetic and environmental factors acting on the human body. In 1870, the Belgium statistician and astronomer Royal Adlphes Jacques recorded the typical dimensions of many parts of the body of both sexes at the early stages of growth from birth to adulthood. Since Jacque’s valuable observation in which it was shown that differences in the principle external characteristics could definitely be conducted for any objective measurements extensive work by many investigators have resulted in the assessment of the body which unfortunately appears to be no practical applicability.

Parnell (1951) conducted study of Athletes on Anthropometric variables and found that an individual of athletic event might largely be due to in born characteristic for their performance in Athletic event.
Tanner (1964) examined the Physique and body composition of Olympic athletes and concluded that athletes are both born and made. This basic structure, he stated must be present for possibility for high performance. He also measures the Physique of long distance runners and found that they are having small legs, narrow shoulders and having thin muscle.

Carters (1987) Method of measuring Anthropometry variables is generally being used. His method has been derived from twelve body measurements, which give the form of an individual body on the basis of size and shape. Some somatic and anthropometric measurements can also be cassen into consideration for studying the physique of an individual. Anthropometric measurements consist of objective measurement of structure, body composition and the functions of the body etc. This is one of the most specialized techniques to measure the body of athletes the measurement of structure and proportion of body is called anthropometry. This is consisted of making external measurement of the human body. The result can be used to appraise body built nutritional states of posture. Magors (1980) said that certain anthropometric considerations can identify somatic type feature and his racial traits of players, which can give advantages for performance in top sports.

Therefore, there is great need to analyze all these factors, which can help in developing the better Hockey and Foot Ball Players and this investigation will change the old concept of training selecting talent and will give new concept to achieve high level of performance.

**History of Hockey**

Hockey is a game without a birthplace or a birthday. There is however, evidence that the ancient ‘Persians loved to chase ball with
sticks carved from head grew. In Persia a game like polo was played on horseback. The older people when they were unable to climb the horse and the others, who could not afford the horse, started playing on feet with pebbles or with wooden balls and short sticks. It is understood from the fact provided by the history that hockey is eastern perfection. The Greek borrowed the idea from Persian and it went to Greece. As for them, fitness was second to their religion in those days. The old Olympic games had hockey in it (514 – 499 BC). Americans started bully also. They used to hold the stick up -side down. There is a picture of this in museum in Belgium. Two men are shown bulling the ball with holding the stick up- side down.

Hockey in turn, passed it on the Romans. They played this game on seashore with human skull and ball. They used to keep their stick with them. It is believed that the game to British Island.

This game also went to America. In America, Red Indian tribes used to play hockey as part time. The ball made of wood or deer skin and sticks were made of deer legs, which had short hooks.

It then traveled to France in the 15th century. There it was called ‘hoquet’, which in their language means Shephered’s stick. Trace of some sort of stick game played by Aztee Indians have also been found and evidence shows that most of American Red Indians played a vigorous form of hockey if or several thousand years. To the red man, hockey was more than a game. When two neighboring tribes challenged each other to a friendly game of hockey, long and painful were the preparations, which both parties made for the encounter. The hockey of red skins was very different from the hockey of today. They used to play from sunrise to sunset and the size of the ground was also different. The goals of the red men were often at distance of several
miles from each other. Even the number of players was not restricted, thousands of players used to play at a time. Once they started, it was more a free fight than anything else.

Eventually, it found its way to Britain. British claimed that hockey started from them only, but according to facts of history, hockey went to Britain with Romans when conquered Britain. They say that hockey had born from one of the branches of club ball. They were calling it with different names as in Ireland it was known as ‘Baire or Hurly’. In Scotland as ‘Shinty’. In England and Walse as ‘Bandy’. All these games had resemblance to the modern game.

But Ireland claims that they had played before St. Patrick crone. William Fitzstefhen described that London schoolboys played this game in 1175.

On 1527 hockey was outplayed and forbidden. The lord Banyan had the pleasure for this game and he restarted it. There is on reference to this game in 17th and 18th century.

From these facts we actually can’t say that which country had organized it. Although there are definite proofs that it continued to be played in a crude form. Round about 1840 some club in England are known to have played this game with enthusiasm. The one club that survived, from out of these pioneers of the game, is the Black heath club, founded in 1840. This club was a combined for football and rugby. In 1862 the club was split into two and a separate Black heath hockey club was formed, as the game grew steadily and this was the club drew up rules for the first time. This was an important step in development of the game by the second half of the eighteenth century and began to assume greater social significance England during the winter season.
The next landmarks have been seen in the year 1875 when first controlling body as ‘hockey union’ was formed in London and it was considered that to improve the game there is necessity to change the rules also for the first time, cricket balls were used to play the game by East boume club, though there had been an initial objection to this. Though there should been some clubs round about this period as the game seems to have been played, those clubs have been survived in England start from 1870 only.

In 1883, the Wimbledon Hockey club of London formulated new rules, which made field hockey a fast and exciting sport. The game was spread rapidly throughout Britain. In the year 1886 the hockey association of England was formulated in London and the duke of clearance was president. This Association, which has survived others, as the controlling body for hockey in England; In 1887 another National Union was formed with duke of Belfast as the president. In those days, the survival of an association depends on its rules being adopted by the large number of clubs. The struggle went on and only the hockey association of England survived.

In 1893, the Irish hockey association, the governing body in Ireland was formed. In 1895 All England Women Association was ad by the nine clubs together. In 1897, Wales hockey association was formed. In 1900 the head of International committee was realized to attend the rules. Keeping this in view the International Hockey Board was formed with two members each from Ireland and Wales. In 1902 the membership was raised by form two more remembers and known as ‘British Board’.
In the beginning of the century the game was played all over the Europe and every country had its own association. With France, Germany, Denmark and Holland the Federation International De Hockey was formed with its headquarter at Vienna and later shifted to Paris. With which England, Scotland and Wales under the name of British Board were associated.

The FIH formulated the laws of the game. It was the only body to govern the International matches and tournaments. Fill has full control of the game. In 1909 Internationals Hockey Board was formed in which British occupied an important position. In this board there were members in all and out of which were from Great Britain only. In 1907, first international match was played between England and France at Buckingham. In 1908, England won Olympic hockey title. In 1913 International match between Germany and England was held.

In 1914 International Federation of woman Hockey Association was formed. In 1920 at Antwerp, England won the Olympic title for second time. Hockey was not included at Paris game in 1924.

In 1927, Indian Hockey Federation was formed and was affiliated to fill. Indian Hockey Federation made an appeal for inclusion of hockey at Amsterdam Olympic. Participation in 1928 and won world title for first time. From then onwards, regular hockey has been in Olympic Games up to now. Today, hockey is being played in more than 112 countries.

Germany Women organization was formed in 1935 and in 1936, FIH passed a resolution that no one belongs to more than one International organization.

The number of women association also increased and they appealed FIH for affiliation. FIH in consultation with IFWH felt it
possible to join women federation and this was the beginning for representative organization to control hockey throughout the world.

International hockey board is an organization with British board and representation of FIH now known as technical committee and it is in-charge of revision, amendment, alteration and dilation of rules when necessary.

Any change desired is experimental upon exhaustively by the member countries and after long trial, the adaptation is made by FIH before being brought on rule book.

The great researcher was made by one of the Canadian scientists. The first hockey tournament was played on Astroturf during Munich Olympic in 1976. Many technical changes have become necessary to make it possible to play hockey on Astroturf. First of all it requires a lot of stamina and speed to play because the surface is very fast. Secondary it requires more strength to play any stroke on Astroturf. (International Hockey Federation). The game of Hockey is a combination of several basic activities such as:

**Striking:** Striking the hockey ball with a stick has the same instinctive origin and gives the same pleasure as striking the head of an enemy or an animal with, perhaps the branch of a tree or a stone hammer. It is a harmonious reproduction of these activities for the good of man’s physical being.

**The coordination:** The coordination of the movements required to play the game is indeed very complex. It is pleasure to watch a man like Dhyan Chand, the ‘hockey wizard’ of India, performing fine like movements as quick and graceful as those of a leopard and cleverly outwitting and dodging post his opponents. This coordination between
the eye, the brain and the muscle, developed through the constant practice of the game, is not only conducive to the building up of an active body but also contributes to the promotion, overall health and vitality. The character building values likes self-discipline, team work and sportsmanship are too apparent to need discussion. Hockey represents the highest rung of the sporting ladder. The individual contests like boxing and wrestling are more primitive than team games, which require more cooperation and the working together characteristics of the ‘gang stage’ in human evolution. The hockey games in which there is roughness and bodily contact are lower in scale of evaluation as compared to those in which bodily contact is eliminated without doing away with the other important man’s elements.

**Attack:** Attack is the best form of defiance as it applies as much to armed forces as it does of all other human activities. Its value is much more evident in the field of hockey.

According to Balbir Singh (1968) a team which enters the ground with the determination to uproot the opponents with sheer vehemence and confidence in it’s attach line has always achieved much bigger successes that the one which plays on the defensive and only depends on a sneak goal to achieve the object. Several matches have been won by a goal scored in the opening of the game with full confidence in the defenders, the forwards are moving with speed but need complete understanding between the forwards and defenders. The forwards are making the mode of attach and moving the ball forwards towards the opponents goals. The center forward along with flank right and left forwards is to work as pivot from the middle line. The forwards should not fall back to help the defenders till there is a grave
emergency. The same applies to flank (wingers) and let such job be
done by the inside forwards. For these improvement of stick work, eye
sight, great running, good passing hitting in the moving ball, foot work
and dribbling around it a hockey ball. A forward should learn to take
the ball on ‘dead’ stick, this is most important but one should not
forget that in attack sound tactics are more important along with good
stick work ball control at a moderate speed is for superior to lack of
control at high speed. As ideal attach by forward should have good
physical fitness and should be a good sprinter and able to coordinate
his brain and brawn.

Techniques of Hockey:

Venkatapathy (Hockey coach, National Institute of Sports,
Patiala) after watching Indian players specially Dhyan Chand’s game
brought out the following techniques of the game. According to him, it
is imperative that the player’s grip on the stick is correct, easy and
convenient. The correct grip and proper footwork and by balancing the
body perfectly, the player can get the maximum advantage with the
minimum effort.

Dribbling:

In hockey, dribbling is an art by itself. For this, the balance of
the body should be very accurate. Since the ball will be moving on
either side of body. This is generally played to keep contact with the
ball right through or by tapping it from one side to other in front of you
without losing control. It is also main technique in hockey to make
neuro-muscular coordination with hockey and ball, which helps in
learning further skills.
Stopping the ball in front:

First watch the course of the ball very carefully, right up to you and adjust your body in such a way that the ball comes straight to you. Keep both your legs firmly together with the truck of your body slightly leaning forward. Hold your stick straight in front of your legs. The full curved face of the stick should receive the ball, while the ball is being stopped, the players should concentrate on the line of the ball. In the similar way, stopping the ball on the right and stopping the ball on the left, the technique of stopping the ball is same.

Stopping a moving ball:

For the action, the grip will be same as for stopping the ball in the front. The left foot will always be in the front with the knee bent. The body from the hip is bent well forward, almost parallel to the ground and the ball is received with the stick slightly leaning forward right under the nose while the impact between the stick and ball take place, the right hand grip should be slightly loosened to avoid rebound.

Stroke:

In hockey the hit is one of the four important strokes, the others being the push, the scoop and flick. It is essential that every hockey player must have a mastery of these strokes far every one of these strokes, the following points must be carefully studied. Grip footwork when executing the stroke body position transfer of weight from one leg to the other and follow through.

Hit and Reversed Hit:

In these strokes, the various movements from the start to the finish of the stroke should be made with the sequence given below:
(1) Positioning of the left foot, (2) keeping an eye on the target, (3) gripping the stick as explained above and keeping its curved face in front of the ball, (4) raising the stick behind with care so that no position of the stick is raised and the shoulder, (5) swing the stick forward towards the ball and hitting it hard (for this act, the wrist should import power, (6) the stroke is executed the weight of the body’s transferred from the right foot to the left. And from the right shoulder to the left shoulder and (7) after the stroke is completed the stick should be swung back, not above the shoulder, the right foot coming forward and the entire body slightly bent forward. The reversed hit is executed when the ball is on the left of a player. The left hand is placed about six inches below the top of the stick and right hand is kept close to the left, making a strong joining. The ball is placed in line with the right foot. The stroke power always comes from the wrist. The stick is swung backward and contact with the ball is made with the full curved face of the stick with a wrist action.

**Push:**

The push is a stroke which is most often employed in hockey. It is only with the stroke that a player can pass the ball with controlled speed and with maximum accuracy. If a player can execute this stroke correctly, his passes to his colleagues will be sent well.

**Flick:**

This stroke is executed on a running ball for sending in from right to left and left to right. It is meant to send the ball swiftly to a short distance. It is executed with the tip of the face of the stick, the ball in most cases travelling in the air or playing this stroke the ball should be moving forward.
Scoop:

It is with this stroke that players send the ball forward in the air. The grip will be the same as for the push stroke. This stroke can be executed with the legs in any position. Intelligent use of this stroke is an asset to any players.

Rolling the Ball with contact in hockey:

The ball is carried forward either with contact all through or just by taping it and pushing it forward. Rolling the ball along the ground with contact is the most purposeful way of carrying the ball forward.

Tackling:

Whereas, it is very essential to know the correct ways of controlling and carrying the ball, also very important to know the right methods of dispossessing your opponent when he is in control of the ball.

Back Pass:

In order to gain distance, it is advisable to send the ball a few feet backward to one of your team mates who are more free and unmarked and collect it from him a few yards ahead. It is the timing of the back pass that is very important and this-stroke should be very well disguised.

As is usual with the other stokes of the game, it is right wrist that plays a very important part. The left wrist turns the stick to the reverse position. The ball is either flicked or tapped back.

Corner Hit:

Taking corner hit is very important in view of its potentialities to score goals. In this movement, both the players who stop and hit and the ball, should fully follow a few elementary fundamentals as doing so
will help towards correct execution. These skills required hard practice, keen eye sight, stout hearted man and confidence all those qualities can make a good player. The hard practice needs good training physical fitness, which should covers all the aspect of factors such as hockey skills, good physique and Psychological factor related to the performance.

The tempo of the game is set by the ability of the players as it involves a fascinating array of skills and qualities such as quickness of foot speed combined with balance, co-ordination straight power stamina and endurance. Quick tactical decision along with other qualities such as patience concentrating calmness and handing pressure etc. Technical skill decapitation technical ability physical fitness and good mental approach attribute the good Hockey and Hockey players. That performance of skill requires a good physical fitness, and metal ability.

**History of Football**

The popularity of football throughout the world today is almost unrivalled by any other sports. A game that started life over 2000 years ago is now played by millions all over the world. The earliest mention of a primitive form of football is the game of tsu chu played by Chinese warriors of the Han Dynasty 2100 years ago. Later on it spread to East and west, to Japan and Indo- China and then filtered through to Italy. The Romans brought their version of the game called Harpastum, to England during their conquest.

Edward –II banned this game in 1314, due to rough and unfair play involved in this game. It was not until the early 1800 when the game was taken up by the Public Schools and universities and it
developed into the game of discipline and fair play. Gradually the football clubs were formed in 1863. The sports clubs changed to football Association which prepared the code of rule and regulation for the game. The First Football Association Cup was contested in 1871 and the first official international match was played between England and Scotland in 1872. The growth of clubs in England led to the formation of first English League in 1888 and the Scottish League in 1889, the Irish in 1890. With the span of time this game was also introduced in Brazil, Russia and Denmark. This game became so popular that FIFA (Federation International of Football Association) was founded in 1904.

The most famous football tournament played today is of the World Cup which was started in 1930 and Uruguay became the first World Champion. During this span, Europe, South America and Asian countries also took this game. All these participating countries took this game as science with adding new ball, skills and tactics and have changed the pace of the game to confuse opponents. In the present situation, the players have to learn a new tricks and strategies to make a mark in the game.

At present 193 National Associations are the members of FIFA that is more than the number of countries belonging to the United Nations. 250 million men and women play football throughout the world. Hundreds of thousands of other big or small, young or old, with no distinction of class or race, divide themselves into two teams with the sole aim of having fun by sending the ball into the opponent’s goal. Football is an embodiment of need to communicate and to share and is one of the greatest concepts of humanity.
Football is the second most popular game in India. The British army in India first played this game in 1880. It can be safely said that football was one of legacies left to us by the British with introduction of football by the British regiment. It gained enough popularity throughout the country and found its way into the reputed educational institutions.

The governing body of the game in India now a day is the All India Football Federation (AIFF), which came into existence in 1937. But the story of organized football in India is connected with the history of Indian Football Association (IFA) which is today the governing body of the game in the state of West Bengal. IFA, Calcutta, the oldest state level football organization in the country was formed in 1893. Two important football tournaments were organized: one was the Durand cup and the other was the ‘Trader Cup’ which is now known as the IFA shield. The Durand Cup tournament is the oldest football competition in India and only second in the world in seniority next to the famous FA Cup of England. The first football league to be run in India was in Calcutta in 1889. India entered the international field in football as an independent nation in 1948, when the Indian team participated in the London Olympics.

India became Asian champion in 1951 during the first Asian games held at New Delhi. Since 1964 as India has not taken part in the Olympic games- only sixteen teams participated in the tournament. The hosts and winners of the previous competition automatically qualify and the remaining 14 teams are filled by pre-Olympic qualifying matches. Unfortunately standard has gone down so badly that India could not qualify even once after 1960 (History of Football).
The main trophies for football in India are Durand Cup, Delhi, IFA Shield, Calcutta, Santos Trophy (National Football Championships), Rovers Cup, Bombay, Delhi Cloth Mills, Delhi Federation Cup (India’s Cup Championship), Jawaharlal Nehru Gold Cup Invitation International Football, Dr B. C. Roy Trophy (Junior National Football Tournament) Mir Iqbal Husain Trophy (The Sub Junior National Football Championship), Sir Ashutosh Mukhergee Memorial Shield (All India Interuniversity Football Tournament) and Dutta Roy Trophy (Under 21 National Football Championship).

Game of football involves continuous action and constantly changing possession, a team game in which each player is nevertheless clearly an individual with a style and skill of his own. Watching football matches presents no problem because the rules are straightforward and easy to follow. Today each player has 11 players who try to get the ball into their opponent goal. One member of each team, the goal keeper, guards the goal and he is allowed to use his hands within his own penalty area but no outside it. If during play, the ball goes over the side line and was last played by member of attacking team, it is put back into the play by a throw-in taken by the member of opponent team. If ball goes over the goal line and was last played by the attacking team, it is put back play with a goal kick. The ball is played within the goal area and kicked up field by a member of the defending team.

The Basic Techniques

Ball control is the foundation for all aspects of the game and a source of motivation for young players because it feels good to be at ease with the ball.
The ability to control the ball is the key to many other skills, and juggling is also a very good way to practice ball control, getting familiar with the ball and gaining confidence. Generally speaking, it is not difficult to master a technical skill, but it does become harder as the game conditions change.

Therefore, a player can only master the technique of controlling the ball if he coordinates the various parts of his/her body. Furthermore, the learning aspect depends on the number of repetitions, whereas there are various combinations available in terms of the method to be used.

As a young player develops, his/her technical skills will set the foundations for good development and enable him/her to experience all of the joy that football can bring.

In grassroots football, the basic techniques can be divided into four categories:

- Controlling the ball
- Running with the ball
- Passing the ball
- Shooting

1. Controlling the Ball

Controlling

To control the ball is to master it. Properly controlling the ball means that a move will be successful. The control movements to focus on are: directed control and gathering the ball while moving – these introduce speed into the play.
Juggling

If repeated regularly, juggling develops the skills of dexterity, coordination and balance in young footballers. These skills favor the more rapid acquisition of other techniques.

2. Running with the ball

Running with the ball

This is how an individual moves in free space with the ball. When a player is running well with the ball, he/she is in control of it at all times: this requires good balance and excellent stability. Running with the ball while keeping the head up allows a continuous flow of information to be received and allows movement to be adapted to play.

Dribbling

This is how an individual moves with the ball when faced by opponents/obstacles. Dribbling allows the player in possession of the ball to eliminate one or more opponents by:

- making a manœuvre and taking individual risks;
- setting up a team move;
- gaining time to allow support from team-mates;
- Deceiving an opponent (the concept of the feint).

3. Passing the ball

This is the action of giving the ball to a team-mate. It is an essential part of team play. As the core of the game, passing allows a team to:

- keep possession of the ball;
- set up attacks;
• change the direction of play;
• counter-attack;
• Provide a decisive or final pass.

Crosses are a type of short or long pass, usually leading to a shot. They serve as the last pass.

**Inside of the Foot Pass**

The “inside of the foot” or instep pass is the safest soccer pass. Because of the large contact area between the ball and the foot, very precise passes can be executed. The “inside of the foot” pass also allows for exact passing and volleying to a partner.

**Outside of the Foot Pass - Basics**

The “outside of the foot” pass is often employed to avoid kicking with the “weaker” foot. This fact must be taken into consideration when training youngsters. The “outside of the foot” pass may only be used.

**4. Shooting**

This is an action with the objective of dispatching the ball into the opponent’s goal. It is the logical conclusion, the culmination of an attack. It is what football is all about. Shooting requires technical qualities (striking the ball well, accuracy), physical qualities (power, coordination, balance) and mental qualities (determination, audacity, self-confidence).

**Chip Cross**

The chip cross is mainly used for hard shots on goal and wide, high play. In contrast to the “inside of the foot” pass, the chip cross is not recommended as much for near-distance passes.
**Drop Kick**

The dropkick is largely similar to a volley. With the drop kick however, in contrast to the volley, the ball touches the ground during the shot. The introduction to this technique is as follows: hold the ball with both hands–let it falls –dropkick.

**Throw-In Technique**

With Practical Tips for the Perfect Throw - It can go no further, but it can go more successfully - How can a player throw a ball as far as possible? - Common throw-in rule violations - Optimal throw-in - Common throw-in rule violations.

**Controlling the Ball with the Chest**

When learning the technique, the players should approach the balls themselves by throwing them slightly in the air, then increase the height of throw and continue to balls thrown from various heights.

**Header - Basics**

Different types of header techniques: header from a standing position, after jumping with both feet, after jumping with one foot and Diving Header. With every technique the ball can be directed by body turns.

**Justification of Problem:**

In India even after 60 years, we still believe in the traditional method of tracing, which did not apply for the development of sports, for instance, we still continue to believe that a person with heavy body can be a good wrestler and a good thrower, a person with slim structure can be a good runner and a good volley ball player contrary, the other leading contest recognizes the roll of scientific training in a long back.
It is neither possible nor feasible to excel at the international level without proper involvement of the sports scientists and method of scientific training. Only after 1982, when government of India hosted Asian games at New Delhi. It was believed that sports not only contributes to the individual performance, individual glory but certainly a factor which involves prestige of nation, and not only in 1982, Asian games, govt. of India gave importance to the sports infrastructure and made sports an item on the national agenda. Accordingly the sports body of the nation started long term development programmers in consultation with I.O.A and sports Authority of India. Though we have started preparing our sports teams and sports persons between the period from games to the next games like Asian, Olympic and common wealth etc, but these efforts and policies did not bring fruitful result’s because of not using scientific angles in training and have no hesitation in stating that sports in our country is still a far cry. We are working on trial and error methods, which may not bring good results in the absence of scientific knowledge of the subject. The high level of performance can be achieved only with high. Efforts which includes sports persons (players) coaches, trainers, doctors, Psychologists and scientists of the elide area and we have to streamline the training method.

Sports persons have to pass through various stages to come up to the highest level of competitions. He or She has to excel to make him/her self eligible for a high level of competition. The judgment of improvement in performance is not always objective means an individual performance better than his her opponent dual or individual sports, to meet this requirement. The coaches and sports persons need
to evaluate some methods, which may make the task easier and free from subjectivity. Though a person can be well educated in the traditional training methods. The experienced coaches or trainee can provide the evaluating scientific criterion for training, which may be able to change physical, motor and human capabilities. It is also important to understand the role of different sportive factors that influence performance in combination and individual. Performance is intimately linked with scientific based training curriculum and all such factors connected with physical performance of the human being.

In modern day sports, it is well said that a suitable person should be selected for a suitable event. In the sports language it is important that a suitable talent is selected for a suitable sports. The purpose of this study is also related to observe the potentialities of a Hockey and Foot Ball players through the Psychological and Anthropometric (Selected) measurement and their independent effect on the performance. All these factors are more considered to find out the talent for these games, and without the identification of talent, it is impossible to achieve the desired goal. So the purpose of the present study will further reveal that the right parameters (Body measurement) Psychological variables and Physiological components along fundamentals related to game of Hockey and Foot Ball. There is a great need to give the knowledge to our coaches, Physical educationist and trainers about these particular characteristics to improve these games (Hockey & Foot Ball in India).

The results of the study would add something new to the existing literature by clarifying the nature of relationship between these variables and these games.
The investigator himself a trained coach Physical educationist and national level player would utilize the results by developing suitable training schedule, anthropometric measurement among the Hockey & Foot Ball players to obtain maximum performance and to confirm the results.

It will be a matter of curiosity to dig out the physiological, Psychological and physical parameters of non Hockey and Foot Ball players and compare these variables amongst these games. Since the controversy still exists among the coaches, Physical education teacher’s planners and regarding the selection of players in India. The immense need was felt by the investigator to collect scientific information on Hockey & Foot Ball game to ensure better performance. This has motivated the investigators to undertake the present study which will give us the Psychological makeup, status of Physiological and Physical structure of male Hockey & Foot Ball players to find out the answer of the complex and after exclusive questions which requires an insight into the role of these factors in sports performance. The following is the statement of the study.

**Statement of the Problem:**

The Study seeks to discover and examine whether sports influence the development of male Hockey & Foot Ball games players with regards to their aggression and level of aspiration, with Physiological variables i.e. Blood Pressure (Diastolic & Systolic) and anthropometry characterizes.

The anthropometry potentialities such as Body weight, stature, body diameters (Biacromial, bicristal and bicondylar), circumferences (Upper arm, fore arm, thigh and calf etc) and skin fold such as biceps,
triceps, sub-scapular, supra-iliac, thigh and calf etc, so the specifically stated problem of this investigation. “Comparative study of Psycho-Physiological and selected Anthropometric variables between Hockey and Foot ball Players”.

Objectives:

The major objectives of the study were to compare the Psycho-Physiological and selected Anthropometric variables of male Hockey & Foot Ball players at inter college/University Levels, state or inter coaching centers.

To investigate the differences among the Hockey & Foot ball players at college/ university levels, state level and inter coaching centers on Psychological variables such as aggression and level of aspiration and to find out independent and interactive effect of sports participation on these Psycho variables.

To ascertain whether there are significant differences in Physiological variables i.e. blood pressure (diastolic and systolic) and pulse rate amongst the Foot ball and Hockey players.

To investigate the difference of Anthropometry potential among the Hockey & Foot ball players at inter college/University Level, state level and inter coaching centers compare among them.

Hypotheses:

On the basis of review and empirical observation, the following hypotheses were formulated.

1. Male Hockey and Foot ball players at Inter college/University level, state level and inter coaching centre taken in the study will differ in psychological variables viz. aggression and level of aspiration.
2 Hockey & Foot ball male players at Inter college/University level, state level and inter coaching center will differ significantly in Physiological variables.

3 Hockey and Foot ball players at Inter college/University level, state level and inter coaching center players taken in the study will differ significantly on Anthropometric measurements.

**Significance of Study:**

A major issue in the present day is how Physical education teachers, coaches or trainers can prepare a good or winning team of players. What are the characteristics of a good winning players and how these characteristics differ between the two game (Major games) especially in case of male Hockey and Foot Ball players at College Level population. The Literature search has revealed that major obstacle to the improvement of sports activities, has been lack of understanding of sports persons’ personal, behavioral and social characteristics. Thus it would be a great theoretical as well as practical interest and importance the personality and social variables like aggression and level of aspiration. If all these variables related for the present study are found to go together to determine the difference between Hockey & Foot ball players at Inter college, state level and inter coaching center players.

The problem of selecting students for sports would have all the above characteristics would be solved and selection would become more objective. If all these variables related to present study are found to go together to determine the difference in Hockey and Foot Ball players, it would be possible to select those male players for participation in these games, who posses these attributes in greater measure to bring more efficiency in performance to prepare winning teams.
Sports scientists are carrying out numerous researches to ascertain the best, the easiest and most profitable and economical method of selecting and training sports personals in order to get the best performance from them. The game of Hockey and Foot Ball are also important and are part of each and every major competition right from Asian games to Olympic. India in somewhere else also has little bit of domination in the game of Hockey not Foot Ball in Both sexes (Men & Women) there is a need to reaffirm our gripper to dominate in Hockey competition like Asian, SAF or Common Wealth games and world championship. By doing this type of study we will able to set norms to select the talent, and hence the study will contribute towards the promotion of these games in the following way.

1. The result of the study will help in screening and assessing the qualities of male Hockey & Foot Ball players presently available.

2. Physiological, Psychological and Anthropometric potential will lay down criteria for selecting the talent.

The physical educationist, the coaches and sports games experts will get benefited by knowing the specific qualities (Psycho-Physiological and Physic or structure and working condition of their structure) of male Hockey and Foot Ball players will help them to help their players to bring up in these games.

These types of researches may have potential significance in the field of sports and physical education in decision making guidance and placement of male students in sports.

In the light of the above significance, it has become an important task to give attention on the improvement of male performance, which is remarkably increasing day by day. To highlight the need of studying,
personal physical and Physiological factors to enhance performance. It is essential to the study of level of aspiration, aggression along with Physiological and Physical factors effecting performance achievement in male participants in these games.

**Definition of the Terms used:**

A specific term of the statement has explained below in order to draw out a meaning which has been considered for the present investigation:-

**Psychological variables:**

**Aggression:**

Aggression or aggressive behavior is a term that is used extensively in sport according to Horby A.S.(1946) Aggressive behavior is an unprovoked hastily.

Aggression is any form of behavior directed towards the objective of harming or injuring another living being, who is motivated to avoid such treatment.(Baron)

Baron RA (1969) Aggression can be viewed as being either announces – motivated or incented- motivated. Burs AH (1960) Suggested aggression as an optimistic approach. Later Bandura AC (1973) and Degue he (1981) also suggested the same Freud. S (1920) believed that aggression was a necessary redirection of man’s desire for self destruction later in 1930 freud held a hydraulic view of Aggression, assuming that aggressive impulses were constantly being generated within the body and that unless released through expert aggressive acts these imposes would build up to intolerable and dangerous loud.
**Level of Aspiration:**

The term Level of aspiration was first used by Demoo in 1930 in connection with a study of dynamics of anger. An individual’s aspiration level represents not only how he is at that particular moment but also how he would like to be. It is a measure of his intentional dispositions, an important element of his long range behavior.

The level of aspiration is this conspicuous index of the person as an individual and as a member of society. This is determined by the amount of self-esteem he needs to maintain. Eysenek (1972) explained Level of aspiration is an individual sets for himself. The aspiration according to Webster international dictionary (1976) defines as a strong desire for realization of ambition, ideas or accomplishment. Whereas oxford dictionary- The steadfast desire or longing for some think above one Encyclopedia of religion and Ethics (1971) describe it as wordily ambition or desire.

This term aspiration has been made in a number of fields such as sociology, psychology, religion, ethics vocational and educational guidance. In this study, the investigators has also deal with the aspiration level as players of Hockey and Football game.

**Physiological variables:**

Only selected physiological parameters namely blood pressure (diastolic and systolic) pulse rate will be considered for the present study.

**Pulse rate:**

It is frequency of pressure waves per minute propagate along the arteries such as carotid or cardinal arteries per minutes.
**Blood Pressure:**

The force (energy) which blood is pushed against the walls of blood vessels is circulated throughout the body when the heart contracts. There are two types of blood pressure. Systolic and diastolic both have been considered for this study.

**Comparison:**

It is comparison between male Hockey & Football players at inter college level/University level and state level players belonging to Colleges/Academies of Haryana and Punjab and affiliated to P.U. Patiala, P.U. Chandigarh, M.D.U. Rohtak, C.D.L.U. Sirsa and coaching centers of Punjab and Haryana.

**Player:**

A person who engage himself in sports and games. “One who is trained or skilled in exercise, sports or games requiring Physical strength, ability or stamina. One who engages in sports, is fair generous, a good looser and a gracious winner. Webster ninth new collegiate dictionary as defined in chamber’s twentieth dictionary (1956) one who practices, or is skilled in the field of sports, one who has qualities and shows the spirit required of a sportsman.

The term athlete is used to include such a wide distribution of individual’s differing in age, sports skill and success and level of competition that is almost become a term applicable to the normal population in general.

John:- The word athlete is now used in every language to describe pupil who are not athletes at all in the strictest sense of the word boxers, foot ball players, cricketers or tennis player etc. in this
wider sense athlete means a sports men of great accomplishment, strength and stamina.

**Anthropometric:**

Meyers (1974) “Anthropometry consists of making external measurement of human body and the relation of these external measurement can be used up rise the body built, nutritional states and postures.”

**Hockey:**

It is a game which is player between the teams of eleven players played outdoor on grassy, play grounds. At present it is played on Astroturf. It has open rectangular field very similar to that of football. On both the end and in right in the center goal posts are located and each side of the play field. The duration of the game shall be two period of 35 minutes with an interval of 10 minutes. The ball is carried forward either with contact of Hockey stick remains always on the ground contact and played by tapping, Hitting and dribbling. It is pushing it forward with stick to other side of the ground to score a goal on the opponent. The winners are declared who score more goals on their opponents. There is fundamental skill in hockey like holding the stick for carrying the ball either through push, flick, scoop, hitting, dribbling, passing, shooting and dodging etc & make mastery over the skill for carrying the ball to score the goals which are pre-requisite for winning the game.

**Foot Ball:**

Game of foot ball involves continuous action and constantly changing possession, a team game like Hockey play ground and in
which each player is never less clearly and individual with a style and skill of his own. Know each team feed 11 players who try to get the ball into their opponent goal. And out of 11, one member of each team will act as goal keeper and guard the goal and he is allowed to use his hands with in his own penalty area but not outside of during play. The ball is played with in the goal area and kicked up field by a number of defending team.

**Delimitation of the study:**

The present study was delimited as following:-

The players of Hockey & Football who are sample of this study were taken on the purposive sampling basis from affiliated colleges to universities of Haryana and Punjab along with sports academies & coaching centers of Hockey & Foot Ball established by Haryana and Punjab govt. sports Department as more as some private organizations. All the players & both game have played inter college/University, inter coaching centers and state championships. Being a bonafied resident of Haryana and Punjab, states of India.

The study was also delimitated to include only two Psychological variables i.e. aggression and level of aspiration of Football & Hockey players (Male). These variables were selected keeping in view their impact on the behavior of the players. Further this work was also confined to play in the age group of 17-25 years taking into consideration. The relevant literature, expert opinion, availability of time and feasibility of tests, anthropometric variables such as body weight, stature, linear measurements (total arm length, total leg length) diameter(bicromial, bicrostal and bicondylar) circumferences of (upper arm, fore arm, thigh, calf etc. (cm.) along with skin folds. (Biceps, triceps, byscapular, supra-iliac, thigh, calf) (mm.).
Only selected Physiological parameters namely Blood Pressure (diastolic and systolic) & pulse rate were taken for the present study.

The present study was also delimited to male Hockey & Foot Ball players belonging to Haryana and Punjab states, who have participated at inter college/University, inter coaching centers & state Level of Hockey & Foot Ball championships.

**Limitations:**

Many factors like diet, sleep, Physical and social environment, economical conditions and life style of the subjects could not be controlled and hence these factors accepted as a limitation. The influence of the above factors on the Anthropometrical, Psychological and Physiological variables could not be assessed which were also considered as limitation.

The researcher was also unable in controlling the Programmes (Coaching etc)/ activities in which these players were engaged during data collection. This is also considered as limitation of the study.

It was not possible to collect data for all the subjects in all the parameters (Anthropometric, Psychological and Physiological) so the data was collected from two or three days in one center/ College) of the games where inter college, inter Distt. (state) and inter coaching contest and state competitions were held.

The variation in weather conditions though not very much was a limiting factor.

Non availability of highly sensitive scientific equipment and finance was also a limiting factor.