CHAPTER - I
INTRODUCTION
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In the human society sports and games are existing as the part of human education. Before the dawn of human civilization and culture, physical exercise was very important aspect of human existence. In the primitive society, the “necessity for survival” motivated man to keep himself more physically fit and strong enough in comparison with stronger forces for nature.¹

Sports is as old as the human society and it has achieved a universal acclamation in the modern times. It now enjoys a popularity which outstrips any other form of social activity. It has become an integral part of educational process. Millions of fans follow different sport events all over the world with an enthusiasm and devotion. Many participate in various activities for the fun of it, for health, strength and fitness. It is facing the shape of a profession to some with high skills with ample financial benefits linked with high degree of popularity.²


The field of physical education and sports are international discipline. They develop international understanding and universal brotherhood in the present society. Sports movements are considered one of the major adhesive forces for developing world peace. It may also as one of the effective mean in solidifying national integration and developing national character. Sports has become the media of international relationship between the countries.

Sports performance is the sum of numerous factors which can vary from individual to individual. A few centimeters and fraction of seconds decide between record performance, victory or defeat in tough international competitions. It is very important to identify and fully mobilize each individual potential.

The increase of popularity and importance is not only due to the fact that the performance in sports are glamorous and spectacular to watch. Sports perform multifarious functions for the human society in the modern age. In fact it has entered into a new horizon of sporting culture, leading to the emergence of sports sciences as the backbone of the performance in sports. This has brought into the sharp focus of the training system as the means of development of sports performance. Scientific knowledge has revolutionized the standard of performance in
sports disciplines. Now the coaches are striving to get optimum performance with minimum expenditure of energy and time. The players and athletes are trained on scientific guidelines.3

Performance outcomes are more likely to be achieved when what is done prior to and during a competition. They have been planned, practiced and shown to be successful. In contests, an athlete should never use new approaches, techniques, or strategies without first being tested, refined, and trained. An athlete should compete with only what is known and has been practiced.

Swami Vivekananda remarked that “One will be nearer to the heaven through football than through a study of Geetha”. The above quotation showed the wholesome involvement of the participants in the game of soccer.

According to Eric Worthington, soccer is played by more countries in the world than any other game and for that reason it is the only game on program of the Olympic games.

Soccer is a game of physical and mental challenges. You must execute skilled movements under generalized conditions of restricted space, limited time, physical and mental fatigue, and

opposing players. You must be able to run many miles during a
game, mostly at sprint like speed and respond quickly to a
variety of rapidly changing situations during play. Finally, you
need a thorough understanding of an individual, group and team
tactics. Your ability to meet all these challenges determines how
well you perform on the soccer field.4

Soccer is a game which calls for strenuous, continuous
thrilling action and therefore, appeals to the youth the world
over. The skills involved in the game are simple, natural and yet
are highly stimulating and satisfying to any one who participates
in the game.5

Soccer as it is seen today has undergone a tremendous
improvement since its birth. Of all the events in human history
the one to attract the largest audience was neither a great
political occasion nor a special celebration of some complex
achievements in the art or science, but simple ball game a soccer
match. If we examine it more carefully we would soon realize,
that each soccer match is a symbolic event of some complexity.
One of the greatest strength of the game is its simplicity. At its


crudest level all that are needed is a ball and an open space with something to act as a goal post. No other sport is so easily available and so immediately inspiring.⁶

The true origin of the game of soccer is shrouded in mystery. Many countries claim that this game has been played in their countries from the very ancient times. There is an evidence that football game was played in both Babylon and Egypt. When the various English public schools, all playing their own different codes, eventually formulated a unified set of rules, splitting with the handling devotees who went on to for Rugby. But speculation on the origin of the game can be protracted indefinitely.

When Edward II was the king, Football was popular in London, but unpopular with merchants, because their windows were broken and with parents of some those who were hurt, playing the game. It was primitive, rough and almost a brutal game and in 1314 things were so bad, that Edward II banned the game. Tremendous popularity among the people kept the game alive and it survived the edicts of a series of kings and queens and remained the favorite sport of both the people and soldiers of England. From the beginning of the 17th century several new

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types of football game were played which were not as rough as the original game; these developed into rugby and at about 1870 association football which is also known as soccer came into picture.7

Soccer, the most attractive and popular game in the world is certainly not a sort of fashionable sport which come today and gone tomorrow. It has been played in some form or the other for centuries “TUSCHU”, a game similar to soccer was played in China as far back as the 3rd and 4th century B.C. Modern soccer, however, has evolved from England; where one of the earliest references to the game was a royal proclamation, beginning the game in the city of London in 1314. The game was standardized in 1863. With the formation of Football Association and the present concept of eleven players to a team was arrived at in 1870.8

The ancient Greeks played a game called Epicures which seem to have borne a strong resemblance to what we now call Rugby. Historians speculate that this Greek game was taken

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over by the Romans after they conquered the Greeks, just as the Romans appropriated much of Greek culture.

What we don't know is that, whether soccer was brought to England or arose there spontaneously as it had elsewhere. England was the womb of our modern game. In 1314 Edward II has proclaimed the prohibition of a game which made "a great noise in the city caused by hustling over large balls. By 1349 Edward III's dislike of this activity was such that he threatened to put it prison as punishment for those who engaged in it. The historical records on this subject are sketchy, so that we don't know precisely what this game of "football" was like.

There is also a version that this game started in the 11th century. When a few laborers excavating the ground near a battle field found a skull of a dead soldier which was believed to be that of a dancer, their dead enemy. Then the skull was kicked to and fro by those laborers, thereby ventilating their utter hatred towards the dance. This was imitated by the boys who later on substituted an inflated cow bladder for the skull, and thus the basic principle of football had its genesis.

Whatever may be the authenticity of the origin of this game, it is clearly evident that this game was nurtured and promoted in Britain. Even from the 12th century onwards the
young men of London used to go to the country green to play football. Further Shrine Tuesday was considered to be an important day when the game was played all over England. The number of players was ultimate and the goals were even a few miles apart. The ball can be handled, kicked, carried or even hit. The game was dangerous to life, limb and property. Because of its rough nature and the resultant breach of peace, the rulers of England and Scotland passed laws forbidding this game. As the game was very popular with the masses, it survived in spite of repressive laws.

Soccer was an upper class activity, a game for gentlemen until 1882. During the same period soccer was spreading a British export, throughout the world. Britain's worldwide influence was then perhaps at its all time zenith. British navy ruled the seas; its merchant marine dominated international trade routes; and its colonial empire embraced vast areas in all parts of the world. No one was forced to play soccer, but millions of people took to the game, because they were attracted to it on a level beyond words. By 1904 soccer was sufficiently entrenched internationally to give rise to the formation of Federation International de Football Association (FIFA) at a meeting in Paris. The purpose of FIFA was to standardize and control the rules of soccer all over the world and to this day FIFA remains the pre-
eminent world governing body of soccer, under this organization the world cup soccer was started. The game of soccer was introduced in Olympics in the year 1900.

Soccer is perhaps India's oldest favourite sport. It is played widely all over the country and is as popular in India as it is Europe and Latin America. The game soccer was introduced in India during 1880 by the British people who ruled over India. The sport became popular first in Bengal before it spread to other parts of the country. The Christian Missionaries started many educational institutions in India. The Indian players got the opportunity to learn soccer through these institutions. This was the milestone for spreading soccer to the nook and corner of India. The military officers, priests and teachers contributed much to the promotion, growth and development of soccer in India.

Field positions in any game are related to the structure and mode of the game. The rules and regulations which govern the game also influence the field positions. Field positions are very rigid in certain games, but this may change according to the system of play adopted by a particular team.

A plan called a system of play governs the way players act individually and together with others on the pitch. Such a
system consists of a starting formation and guidelines for carrying out the primary functions in attacking and defensive play.

Coaching is the general term used to describe the way a coach performs the role of working to improve the team's performance. A coach's methods can be deemed successful when the team and the individual players utilize their resources to the almost, and the individual player as well as the team has acquired new options for action. Coaching is about the interaction between the coach and the player as human being. Coaching can be described in relation to the activities before, during and after the match.\(^9\)

As coaches we expect much from our players and players, in turn, desire much more from their coaches. It is generally observed that the experiences of the players and the methods of coaching used by those who coached them are carried into their coaching methodology when they become coaches later. Most of the veteran coaches have relied on only one educational resource. If the former coaches had weakness, those shortcomings probably remained in the next generation of coaches also.

Coaches of football players and team present particular challenge to new coaches. Unlike other sports, football throughout the world has a well-developed club system, where professionals light for glory and success. To be a successful coach one requires an eagerness to meet the challenges of coaching and through understanding of this often misunderstood sport. Coaches often are seen making statements rather than asking questions. If you want to enhance your knowledge, ask questions, such as how to beat five men defense; what to do when your best player turns negative; what are the functions of players when playing 3-5-2 formation; what should be the relationship between load and recovery process in different periods of the annual training plan; what has gone wrong when team on the top of league matches or loses to a weak team etcetera. In fact, the coach should be inquisitive and learn more by asking questions rather than making statements.

Good and successful coaches are a great source of knowledge. To keep themselves up to date have to keep in touch with latest literature available from various sources.

Your success as a coach depends upon your coaching philosophy, believes and principles that guide your thoughts and
actions. It is the foundation on which all your knowledge about techniques and tactics in coaching and teaching will be built.\textsuperscript{10}

Soccer is one of the most popular sports in the world in terms of spectator sports and players participation. It is fast, quick aggressive and attractive. It is considered a strenuous game because the game demands a high degree of fitness as well as intelligence and alertness of mind, speed, strength, ability, balance and flexibility are the basic qualities for all the elite players.\textsuperscript{11}

The greatness of a nation depends to a large extent on the total fitness of each of its citizens. Total fitness includes physical, mental, emotional, social and spiritual aspects.

Physical educators are mainly responsible for promoting the physical aspect of the above said total fitness, in harmony with all the other aspects of fitness. “Physical fitness is the utilization of concessive calories by a cardiovascular and muscular process bringing the body to optimum efficiency.\textsuperscript{12}

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  \item \textsuperscript{11} Moud Musher Rink., \textit{Sports and Recreational} (Santha clara: Time and Mirror Inc., 1987) p.23.
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Everybody desires a long and healthy life and exercise has a great to play in this. In one aspect the body can be said to commence ageing from the moment it is born, although it is usual to say it begins in about the mid-thirties. However different systems of the body age at different rates no doubt depending upon how they are used or not used. Many people continue a very active life both physically and mentally, well in top their old age. The barrier of these activities often seem to be physiological rather than physical and when a person thinks he is too old to do something physically he may well be completely wrong, although too much exercise could do harm.\textsuperscript{13}

One of the major objectives of physical education is the development of neuromuscular skills. Physical educators should strive to construct precise and meaning-full measuring devices to evaluate the extent to which this objective is achieved. Much of the physical education programme is developed to the acquisition of sports skills. Thus it is important that continued efforts should be made to construct valid, reliable and objective tests for various sports activities.\textsuperscript{14}

\textsuperscript{13}L. Matveyev, \textit{Fundamentals of Sports Training} (Moscow: progress publishers,1981),11.

\textsuperscript{14}Barry L. Johnson and Jack K.Nelson \textit{Practical Measurement of /Evaluation in Physical Education (3\textsuperscript{rd} Ed.)}, (Delhi: surjeet Publications 1982),259.
A common aspect of all the games is the necessity of teamwork to complement individual skills. At the time of play, team members must be mobile capable of covering ground quickly when necessary to support teammates is defense and attack.\textsuperscript{15}

Many of the passes that can be taken on the chest can also be controlled with the thigh, either by alternating the chance or for the ball that is attacked by adjusting the run to meet it. The thigh is less predictable and once mastered, can differ even more options.\textsuperscript{16}

Factors of your game are all steps from the ability to kick the ball in a number of ways and to be able to kick at the correct speed and height to reach your target whether that target is a team mates or the back of the net.\textsuperscript{17}

The physical fitness required to play football differ from other games. The fitness required to play football is specific. You run at varying speed, you fall, you tackle, you kick the ball, you run with it you lead it, you throw it and soon most of them can

\begin{thebibliography}{99}
\bibitem{16} Widows and Buckle, \textit{The soccer Book}, 10.
\bibitem{17} J.P. Thomas, \textit{Let Us Coach Soccer}, 33.
\end{thebibliography}
be reproduce in training. Therefore training should be a means where these movement and repeat them.\textsuperscript{18}

This is a ball passing and running game of an unpredictable and constantly changing pattern, demanding an awareness of other players and an ability to make quick decision and act upon them without delay. It consists of eleven players in each team. The duration of play is ninety minutes and winning is decided by scoring maximum goals.

High performance in sports is the outcome of magnitude and the quality of motor movements. These motor movements require physical fitness, technique, tactics and physiological development of athletes. Physical fitness basically depends on the motor fitness components i.e. speed strength, endurance, flexibility, co-ordinative abilities and buffer capacity, energy reserves and functional capacity of internal organs. Although the ratio differs from game to game but certain amount of all these qualities are the necessary prerequisite for any motor movement.\textsuperscript{19}

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Almost all physical activities incorporate one or more of the elements of force, quickness, duration, and the range of motion. When a given exercise is required to overcome resistance it is called a strength exercise. When quickness and high frequency is maximized it is referred to as a speed exercise. If distance, duration or the number of repetitions are high, an endurance exercise is performed. On the other hand, if the range of motion is maximized a flexibility movement is being performed. And finally, when in a given exercise a high degree of complexity is required. This is known as a coordination exercise. Some athletes are more capable than others of performing such exercises. They are said to have "talent" for that type of activity. But this talent is largely genetic; it is inherited from one's family. Strength, speed, and endurance are inherited abilities which play the most important role in one's chances of reaching high levels of performance. Therefore they are called dominant motor or bio-motor abilities. The term "motor" refers to movement, whereas the prefix "bio" is added to illustrate the biological importance of this abilities.20

Dribbling is the act of a player with the ball beating or going past another player. Despite the rationalization of the

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game at large, with the emphasis on defensive tactics, more logically because of it, it remains the most thrilling and fulfilling aspect of the game.

Today, with the higher degree of organization in the game, the artist who can run at players and beat them stands out more than he ever did. Not only has the nature of his undertaking become more complex but it has become more valuable also.

The excitement in dribbling stems from the incessant variety of techniques a player can use to achieve his aim. It is only the most skillful players who can use to achieve his aim. It is only the most skilful player who can dribble effectively and upon up defenses. Players throughout the ages have always had a dribble identity, a personal group of characteristics ad distinguishable, as the nose or the chain on their faces.

Ironically, although the number of great dribblers may have diminished, the art of dribbling is more familiar one to a wider variety of players. With ‘total football and the involvement of all players in a greater responsibility, every players in the team at some time or other calls upon the skill either to get out of trouble or to get into forward positions.

The fullback or even central defender running with the ball and beating players is a familiar sight, whereas in by gone years
such positions had a more functional responsibility accompanied by greater territorial restrictions.

The foundation of all good dribbling techniques is the ability to run with ball. At first, this seems a simple process which most players should master quite easily in the early days of their career. But this is not quite so. There is more to running with the ball than meets eye.

Passing is the essential mobility of football. Without it the game becomes a dislocated series of which occurs in different areas of the field because people have run to ball there.

The shape, the fluency and the continuity of the game depend on good passing. It is easy to see the shape of football without good passing when we watch young sides that do not have the strength or the proficiency to move the ball from one player by means of good passing techniques.

The study of human physical measurements is dealt by another science ‘Anthropometry’, which has wide application as one of the essential parameters constituting the selective diagnostics of any game or sport. The study of ‘Body types’ has a significant place in the field of sports. Anthropometrical indices aid in evaluating potentiality for athletic performances.
The physical structure especially the height, weight and leg length have definite and decisive advantage in many games. Similarly, segmental length of individual body parts, the leg length specifically, is of considerable advantage in selected events in athletics and in certain games.

The constitutional qualities cannot be changed due to training. The main constitutional qualities are height and the physique. The players should be tall. Even though we consider that optimal height and weight are essential for a soccer player, prescribing a minimum height is difficult. Similarly one should have an athletic body.

Soccer is a game where the technique requires running ability, both for offensive and for defensive strategies; passing or and kicking respectively. Height has thus potential placement as a preferable pre-requisite for the performance-excellence in many sport or game. Anthropometrical measurements have revealed correlation between body structure and physical characteristics, and sports capabilities. This knowledge of mathematical correlation permits sports physicians to evaluate and to predict performance potentialities on the basis of physical
characteristics and the specific requirements of the game for sport-the prediction prognostics.21

Psychology can help the sportsman in the activity of sports excellence. Role of psychology in selection sports, training materials and rehabilitations would definitely help in achieving sports excellence. The emphasis has been laid on pointing out that psychology and sports converge at the same point and excellence in sports can be optimally obtained by developing appropriate strategies.

Aggression likely occurs in sports such as Soccer, Hockey, Kabaddi etcetera at least in parts because athletes are socialized to be aggressive. In accordance with social learning theory, athletes model aggressive behaviour in others are reinforced for their aggressive actions, receive few punishments for their acts, and have expectations concerning likely punishment and reinforcement. One of the most important forms of reinforcement aggressive acts can receive in playing contests is for the aggressive acts to lead to successful performance outcomes for the team.

Thus, aggression is positively reinforced by athlete's achievement of success although some research has failed to

find a positive relationship between successful performance and aggression, several studies.

Aggression in sport situations might also emanate from frustration. The frustration aggression hypothesis states that when one is unwanted in an attempt to achieve a goal, frustration will occur, which will then result in aggressive behaviour. In sports, frustration often is a result of an unsuccessful event or outcome, therefore, the frustration aggression hypothesis predicts that poor performance (i.e, the lack of success) precedes aggression. Early in a soccer game or season aggression might facilitate performance, whereas later in game or season aggression might be a result of frustration.

Today sports psychology has provided little information about new competitiveness and now it affects sport participants. However, we do know more about the closely related construct of achievement motivation. Competitiveness is a sport specific form of achievement motivation, and sport psychologists generally agree that competitiveness develops from achievement motivation. Thus by examining the factors that influence achievement behaviour we can begin to understand competitiveness.

Achievement motivation has a rich tradition that provides insights applicable to sport competition is the most common achievement situation in sport, buy achievement also
occurs in non-competitive situating when individuals compare their performance to personal standards²².

An individual’s driven to achieve success for its own sake is known as achievement motivation. In sports people this is closely related to competitiveness: in other aspects of physical activity we would refer to the persistence of a climber in the face of difficulty or the striving for perfection of a dancer. Achievement motivation is about what happens when we are faced with choice to seek out or to avoid situation where we might or might not be successful²³.

The theory postulates that achievements situation arouse and expectancy that an individual performance succeeds or fail, which cause a conflict between two opposing tendencies. The tendency to approach success or the tendency to avoid failure are both the motive to achieve success or the tendency to avoid failure is relatively stable and results from the individual’s previous experiences in achievements situations²⁴.

In Prediction, results are anticipated before hand. Usually, the anticipated results are not chance guesses but are leased


upon some known facts of relationship or carefully conceived beliefs.25

The present study has taken into consideration a field game that is soccer. Field games are unique in the sense that they are played in a relatively large area and involve the handling of a ball or similar object. It requires a high degree of running, maneuverability and total body agility in order to gain good field position and compete with one's opponent on both offensive and defensive maneuvers. Fast starting, stopping, dodging, darting and acceleration are the fundamental requirements to a good play. Since field games often involve condition bouts of play at a vigorous rate, a high level of aerobic endurance and also good running ability is of great importance.26

Competition is a fundamental feature of any sport and it is one type of human behavior also. Emphasis is needed on the development of personal traits and factors that influence performances in competition.

Selection of the best players in soccer team is done from subjective observation of playing performance during selection.


trials. In addition their performance in the past years was also discussed and then the final team was selected.

The changing nature of soccer demands better skill and increased physical abilities. It is a known fact that Soccer players should be better in morphological measures, body composition, motor fitness components and physiological traits. But there is no previous study in India to determine the factors, which dominate in soccer players and also to determine the factors, which contribute for successful outcome in soccer game. The present study is a sincere attempt on the above so-far uninvestigated area.

Statement of the Problem

The purpose of this study was to analyse the various factors correlated with playing ability of soccer players of different achievement levels. The subordinate purpose of this study was to compare the variation among high, middle and low achievers on the selected variables (anthropometrical, bio-motor, psychological and skill performance variables).

Delimitations

1. To achieve the purpose of the study, 90 male soccer players were selected randomly from various colleges who participated in the Tamil Nadu State Level Inter Collegiate Men
Soccer Tournament conducted by The Alumni Association of Alagappa University College of Physical Education, Karaikudi, Tamil Nadu, India during the year 2003-2004.


3. The age of the subjects ranged from 17 to 25 years.

4. The selected subjects were divided into three groups namely high, middle and low achievers in soccer.

5. The playing ability of soccer was considered as a criterion variable.

6. The following variables were selected as independent variables for this study.

**Anthropometric variables**

Weight
Height
Leg length
Arm Length
Bio - motor variables

Cardio respiratory Endurance
Speed
Explosive power
Flexibility
Agility

Psychological Variables

Aggression
Sports Competition Anxiety
Achievement Motivation

Performance variables

Dribbling
Passing
Shooting
Playing Ability

6. The standardized tests were used to collect relevant data on the selected independent variables.
Limitations

1. The previous experience of the subjects in the field of sports and games, which might be influencing on the data collection, was not considered.

2. Psychological factors, food habits, rest period; life style etcetera could not be controlled.

3. The weather conditions such as atmospheric temperature, humidity and meteorological factors during testing period were also not considered.

4. Though the subjects were motivated verbally, no attempt was made to differentiate the motivation level during the period of testing.

5. Since the manual operation was made during shuttle run and 50 mts run, the time was recorded in one tenth of a second.

Hypotheses

1. It was hypothesized that the playing ability of high achievers in soccer players might be predicted from the selected anthropometrical, bio-motor, psychological and skill performance variables.
2. It was hypothesized that the playing ability of middle achievers in soccer players might be predicted from the selected anthropometrical, bio-motor, psychological and skill performance variables.

3. It was hypothesized that the playing ability of low achievers in soccer players might be predicted from the selected anthropometrical, bio-motor, psychological and skill performance variables.

4. There would be significant difference among high, middle and low achievers in soccer on the selected variables (anthropometrical, bio-motor, psychological and skill performance variables).

**Significance of the Study**

1. The results of the study may provide the standards of the State Level Soccer players in various predictor variables of, Anthropometrical, Bio-motor, Psychological and Skill performance variables.

2. The prediction and conclusions of this study will pave a way to create a new model that can be applied to the men in selecting soccer players.

3. The findings of the study might be used as a screening tool and technique in analyzing and classifying the players.
4. This study may enable the coaches and the trainers to develop sound training.

5. This study might motivate other soccer lovers and scholars to take up similar studies.

**Definition of Operational Terms**

**Factors**

Factors seek to resolve a large set of measured variables in terms of relatively few categories, known as factors. Factors refer to the variables selected for the present study.

**Soccer**

Soccer is a game in which there are eleven players a side one of whom shall be a goal keeper, the ball is round and is to be kicked through the goal posts under the crossbar no handling of the ball is allowed except by goal keeper.27

Soccer is a game in which the ball is propelled towards the goal by skillful advancing and controlling it with feet, body and head.28

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**Dribbling**

Dribbling is the art of trapping. The ball forward with foot so that it remains chose and within the control of the kicker.

**Passing**

Moving the ball from one player to another player.

**Shooting**

Shooting is an essential part of offensive players to achieve the target. The main objective in football is to score goal. So shooting skill is required to drive the ball towards the target.

**Playing Ability**

In the present studies playing ability refers to ability of the players to play soccer game and assess by the judges or subjective rating.

**Cardio Respiratory Endurance**

Cardio respiratory endurance is the ability to continue activities that tax the cardiac, circulatory and respiratory functions.\(^{29}\)

Endurance is the ability to do sports movements, with the desired quality and speed, under conditions of fatigue.\textsuperscript{30}

**Speed**

The capacity of moving a limb or part of the body's lower system or the whole body with the greatest possible velocity.\textsuperscript{31}

**Explosive Power**

It is the quality of a muscle to contract forcefully in the quickest possible time.\textsuperscript{32}

**Flexibility**

Flexibility can be defined as the ability to perform movement with greater range of motion or large amplitude.\textsuperscript{33}

**Agility**

It is the ability of the human body to change direction quickly and effectively.\textsuperscript{34}


\textsuperscript{31} Frank Dick., Sports Training Principles, P.193.

\textsuperscript{32} Ibid., pp119-121.


\textsuperscript{34} Ibid., pp 19.
Sports Psychology

“Sports psychology is the branch of sports and exercise science that seeks to provide answer to questions about human behaviour in sports”35.

Aggression

Aggression is defined as "the behaviour of directed towards goal of harming another living being who wishes to avoid such treatment."36

Achievement Motivation

Achievement motivation is dominant motivational orientation in situation characteristised by the attainment of clear success or failure. The two primary motives are either to achieve success (Mass) or to avoid failure.37


Anthropometry

Anthropometry is the science of measuring the human body and its parts. It is used as an aid to the study of human evaluation and variations.38

Height

Height is the vertical measurement from the heel to top of the head of the human body.39

Weight

Weight is the measurement of total body mass.40

Leg Length

Leg length is defined as the distance between greater trochanter to the floor.41

Arm Length

It is the distance from Glenoid Fossa of shoulder joint to the tip of the middle finger.

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40 Ibid, p.22.