CHAPTER – I

Introduction

In ancient times people lived in the natural environment which forced them to work hard for their livelihood. They had to struggle and fight for their existence. As a consequence they developed the ability for hunting, fishing, crop, caring and fighting. They also developed skills like running, throwing, jumping, climbing and swimming, etceteras. As a result they possessed fitness qualities like Strength, Speed, Endurance, Agility, Flexibility, Co-ordination, etceteras.

But, the modern world is the outcome of many scientific inventions through centuries. Scientific instruments and machinery have helped to live an easy life.

Since the modern man depends mostly upon modern outfits for his daily routine, involving mainly his mental powers to live an easy life, there has been a fall and deterioration in his physical health and capacities. Modern man need not toil like his forefathers for his daily life. So he has become less vigorous and lethargic.

Every individual should develop his strength and endurance for a happy and effective living. In order to get proper strength and endurance one has to be involved in physical activities.
Health and Physical Fitness have had a vital role in the life of man from time immemorial. The progress of the nation lies in the hands of the people, who are healthy and physically fit. Physical activity is essential for the development of whole some personality of the child which would depend upon the opportunities provided for whole some development of the Mental, Physical, Social and Spiritual aspects. Hence a well organized and properly administered Physical Education programme for school children is very essential.

Man’s physical activity and movement is as old as human existence. It played numerous roles form struggle for existence to excellence. In this role, fundamental motor skills developed into various movement patterns at times forming basic living skills, some time forming skills for leisure time pursuits, at times framing the unconquered, after applying skills for excelling the sporting performance; but a every stage of human history physical activities provided an exciting out let for human expression – often creative in nature.

Physical activity through out the ages has been acclaimed for health and recreation. It provided fun and enjoyment, provided youthful exuberance and provided the elderly care.
The increased energy expenditure that accompanies regular physical activity contributes to more efficient function of various systems, weight maintenance, reduced risk of several degenerative diseases, reduced risk of mortality, and overall improvement of quality of life. Habits and attitudes towards physical activity developed during childhood are assumed to continue through adolescence into adulthood. Physical fitness is a related construct and it is also often assumed that the more habitually active are more fit and that the relationship is causal.¹

But the natural urge, the natural power and the natural surface that groomed the participants through the centuries, from primitive to modern days are gradually being replaced by technology in the name of betterment, variety, improvement and excellence. Man became superior among all the animals through two most radically significant changes in animal behavior. The first one was the release of the hands from being used as a means of locomotion, and the second one superior intelligence. The working of human arms has limitations apart from the physiological principles behind muscular movements. The arms are limited in their movements by anatomical structure and joint patterns. This has cast its influence on man’s physical

¹ Robert M. Malina “Tracking of physical activity and fitness across the life span”. Research Quarterly for Exercises and Sports; Vol. Supplement to No. 3 September 1996, P.S. - 4S
Work capacity, affecting sports performance as well as vocational performance as well as vocational performance in addition to one's daily life physical performances. But man has a scientific brain to work out ways to overcome difficulties to his advantages.

Children express their world of fantasies and imaginations through creative play. Great educational thinkers felt it most suitable avenue for child's education. But the implementation has not been to the desired extent. The handicapped may find wider opportunity to express their creative thinking through various adapted movements.

Thus it is not simply play for play's sake, it is not also just striving for excellent let activity and sports build up strong man power, develop mutual trust, co-operation, solidarity and friendship among individuals, teams and nations.2

Fundamental to success in education or any order fact or of living is possessing good health. It can be achieved in youth by growth and development taking place in any acceptable manner.

The concept of fitness has been unfortunately interpreted very differently from one investigator to another. Fitness is a positive quality

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extending movement, alertness of mind and emotional adjustment. It is the result of genetic makeup and interaction of the environments.

The process of grading and selecting the best in physical education often leads to some dissatisfaction. The variable which comprise elite performance and is not only numerous but varied too. This process observation, testing and analysis are yet to pick up in India. That is, perhaps where there is a great disappointment in the country over the poor performance of our sportsmen in the international. Sports competition.

**PHYSICAL EDUCATION**

Physical Education is an education, through the physique and the activities are related to it. Physical Education is the process by which changes in the individuals are brought about through his movement. Through the physical activities, the wholesome personality of the individual will be built up. The word physical refers to the body. It is often used in reference to various bodily characteristics, such as physical strength, physical development physical power, physical health and physical appearance.

According to CA. Bucher, “Physical Education, an integral part of total education process, which has it’s aim the development of physically, mentally emotionally and socially fit citizen through the medium of physical activities that have been selected with a view realizing these outcomes”.
According to Indian Central Advisory Board of Physical Education and Recreation, "Physical Education is an education which aims at the wholesome development of an individual through physical activities".

According to J.P. Thomas, "Physical Education is an education through the physique and the activities are related to it. Physical Education is more related with education than physique". 3

1.2 MEANING OF PHYSICAL EDUCATION

Physical education is an integral part of sound education. In the achievement of the aims of education, physical education can play a large and dynamic part. It is not only concerned with the physical outcomes that accrued from participation in activities but also in the development knowledge and attitudes. Physical education is accepted as an essential and integral part of education all over the world. It is promoted not only because of its value in programmes of physical fitness but also its contributions to essential and special qualities and personal character. 4

1.3 IMPORTANCE OF PHYSICAL EDUCATION:

Long ago wise educators pointed out that, “learning to learn” is the ultimate goal of education. For example, learning to read is an end for children, but ultimately reading becomes a means to an end. Readers can learn on their own. All people can learn to learn. Learning to learn is critical to establishing the importance of physical education. People who know how to move, and who know all about sport, exercise and fitness can make intelligent decisions throughout life. During the school years they can find great satisfaction in the process of learning to learn in physical education. Physical education is to strengthen its position in schools and to develop the kind of relationship through the sport, which is beneficial to both kinds of involvement like physical and mental activities.

To use the term physical education is most unfortunate, but there is no alternate until leaders in the profession agree on a better term. Man is a unity there can be no separation of mind (Mental) and Body (Physical) without destruction of the organism.

In the time of Socrates, Aristotle and Plato Physical Education was called Gymnastics (Athletic or Disciplinary exercise). In modern times, when education emphasized culture, the names become physical culture (the Art of Science of exercising the body and systematic care for development of the
Physique). Later when the “manual training” movement was ushered in, the name became physical training. To secure recognition from educators as part of the curriculum, the name was changed to Physical Education. The primary objective was changed from building muscle to educating through Physical Education activities.

The primary reason for changing the name Physical Education is to eliminate a possible wrong concept that it is purely physical. This concept is also present in physical culture and physical training but not necessarily in gymnastics. The concepts of Physical Health and Mental Health are eliminated by use of the single term, health. Furthermore, these names can stand alone without the word education as the terms suggested. Critical thinking would eliminate all with the possible exceptions of Athletics, Dance, Somatics, Sports, Gymnastics and Movement Arts.

With rapid development of sport into a highly organized and competitive social phenomenon, there is a clear-cut classification of sport on the basis of intensity of participation namely the recreation sports, health and conditioning sports and the competitive sports. Competitive Sports are again ranked according to the level of intensity of play. The play that raises the pulse rate of the player to approximately 180 beats per minute is designed as top sport. Sports developed into distinct scientific discipline in itself and each nation is vying with others to produce class players to win laurels in
international competitions. Considerable research is devoted to identity factors that will be predictive of achieving high level of skill in a given sport with proper coaching.

The job of Physical Educator as well as coach has become very complex because each of them has to be aware of several decisive components like motor skills, anthropometric variables, physiological and psychological factors in total performing ability of the sports persons in different sport activities. They have to be constantly on the look out for improved methods of coaching and training to bring out the best in sportsmen at an early age in life.

1.4 AIM AND GOAL OF PHYSICAL EDUCATION

Aims, Goals, objectives and purposes of Physical Education are interchangeable in their usage although some differences are there in their meaning. An aim and a goal both describe a distant and encompassing end. A purpose includes a resolution or intention to pursue goal or aim, although in some cases they may overlap, an aim or a goal that becomes the ultimate aspiration and the attainment of a purpose and thereafter objectives contribute on a lower level.

Physical Education should aim to provide skilled leadership and adequate facilities, which will offer an opportunity for the individual or group to act in situations, which are physically wholesome,
mentally stimulating and satisfying and socially sound. Traditionally, this goal has been associated with Physical Education’s role in the aims of Education. Today’s goal for Physical Education involves similar aspirations for its diverse programs in this technological society. The aim of Physical Education is to increase every individual’s physical, mental and social benefits from physical activities and to develop healthy life-style, skill and attitudes.

1.5 OBJECTIVES OF PHYSICAL EDUCATION

The objectives of physical education are often more specific than the goal, or aim.

In 1934, the American Physical Education Association’s Committee on Objectives listed physical fitness, mental health and efficiency, social moral character, emotional expression and control and appreciations as the desired objectives. In 1950, the profession restated these: to develop and to maintain maximum physical efficiency, to develop useful skills, to conduct oneself in socially useful ways and to enjoy wholesome recreation. In 1965, the American of Health, Physical Education and Recreation stated five major objectives (AAHPER, 1965) as follows:
To help children in a skillful and effective manner in all the selected activities in which they engage, in the physical education programmers and also, in those situations that they will experience during their lifetime.

To develop an understanding and appreciation’s of movement in children and youth so that their lives will become more meaningful purposive and productive.

To develop an understanding and appreciation of certain scientific principles concerned with movement that relate to such factors as time, space, force and mass energy relationships.

To develop the various organic systems of the body so that they will respond in healthy way to the increased demands placed on them.⁶

⁶ Angela Lompin, Physical Education a Contemporary Introduction (Saint Louis: Times mirror mosby college Publishing, 1986) P.11
1.4 PHYSICAL FITNESS

Fitness means the ability of an individual to live a happy and well-balanced life. Physical Fitness is the capacity of the heart, blood vessels, lungs and muscles to function at optimal efficiency.\(^7\)

Basically Fitness means being in good physical condition and being able to function at one’s best level. Total fitness for living involves spiritual, mental, emotional and social as well as physical qualities.\(^8\)

Total Fitness is the watchwords of today and basic to the total fitness demanded by society is the developmental and maintenance of physical man. This is a constant need, which is not altered as man evolves mentally, morally, and socially.\(^9\)

Physical Fitness is a term used to refer to the functional capacity of an individual to perform certain kinds of tasks requiring muscular activity. Physical Fitness is the ability of the body to adopt and recover from strenuous exercise. It is the relation of one’s ability to work and play with vigor and pleasure without undue fatigue and

\(^8\) Charles. A. Bucher, “Foundation of Physical Education” (Saint Louis”. The C.V.Mosby Company 1975) pp.28
with sufficient energy for unforeseen emergencies. Physical fitness is to ability to last, to bear up and to preserve under difficult circumstances where an unfit person would give up. It is the opposite of being fatigued from ordinary efforts.\textsuperscript{10}

Physical Fitness is not only the most important key to a healthy life, but also the basis for dynamic and creative life.\textsuperscript{11}

Physical Fitness is necessary for every individual to be physically fit to perform their daily work with ease and to take part in various activities effectively. Every one should be fit enough through participation in physical activities to develop the different physical fitness components.\textsuperscript{12}

\subsection*{1.5 IMPORTANCE OF PHYSICAL FITNESS}

Every individual must know the importance of physical fitness. Physical fitness is the capacity of a person to function steadily and smoothly when a situation arises.

Increased physical fitness not only improves health but also improves the performance at work. Hundreds of American companies have backed this idea financially by employing fulltime doctors of

\textsuperscript{10} David K. Miller and T. Earl Allen, Fitness a life time commitment (Delhi: Sujeet Publication, 1982), p.4
\textsuperscript{11} Brain L. Sharker, Physiology of Fitness (Champaign: Human Kinetics Publishers Inc., 1984), and p.55.
\textsuperscript{12} Margaret J. Safrit, Introduction to measurement in physical education and exercise, (St. Louis: Times mirror/Mosby college Publishing, 1986), p 78
Fitness for their workers. The player in good condition generally thought to have the ability to do sustained work over a long period of time. He should have sufficient speed, endurance, power and agility. Cardio-vascular endurance and jumping ability are essential qualities required to be developed by all players.

Bucher states, Games and Sports are a popular pastime for young and old, for boys and girls and for men and women. They offer opportunity for all to obtain exercise, fun and relaxation. They can play an important part in developing physical fitness and skill for use in the leisure time, now and perhaps more important in later years. Many of the skills developed through games and sports may be used in years to come to keep physically fit.13

Indira Gandhi stated that, Technology covers every aspect of life and sports are no exception to it. Sports science has enabled modern youth to develop physical capacities beyond imagination. Sports have become highly competitive and existing records are being broken and bettered with greater rapidity.14

IMPORTANCE OF SPORTS

It is a well documented act that sport is necessary to develop and maintain the health of the cardiovascular system. In addition, sports consume calories and thus helps to maintain a normal weight. The people all over the world who have reached their 90’s and beyond, have been active in all their lives including their older years.

Adequate muscular strength is extremely important when an occupation demands it, in vigorous sports, and for those over 50 years of age as we all need to maintain minimal standards of muscular fitness in order to avoid acute or chronic injury, such as low back pain, and adequate strength as an aid to performance.15
A physically fit person is able to cope better with mental stress. Physical activity provides outlet that enables a person to “let go” to release instinctive aggressive drives.\textsuperscript{16}

Taking into consideration of the importance of fitness in sports and games the investigator intended to construct norms for the AAHPERD youth fitness test variables and it became necessary to explain AAHPERD youth fitness test and the variables related to that besides norms.

**AAHPERD YOUTH FITNESS TEST:**

The AAHPERD youth fitness test selected for the construction of Norms consists of six items, four of which measure athletic performance related to physical fitness; They are pull-ups, standing broad jump, 50 yards dash and shuttle run. The remaining two items


Sit-ups and the options to the 9 Minutes \12 Minutes Run and Walk measure health related physical fitness. The 9\12 Minutes Run and Walk requires combination of both types of fitness. The youth fitness test is now published by the American Alliance for Health Physical Education, Recreation and Dance (AAHPERD), which is the national organization of the field of study. The most recent version of the test manual (AAHPER 1976) contains test instructions, national norms for each item and information on the award system for the test.

The first version of the youth fitness test was published in 1958. Seven test items were included in original battery, in which each test judged to be a valid component of fitness. In 1963 Ponthieux and Baker studied the validity of the total battery by using a procedure known as factor analysis to determine the relationships between the seven test items. If the items clustered together under one factor, they would be considered measures of the same dimensions of youth fitness. If each item were associated with a different factor, it would be interpreted as measuring seven difference dimensions of youth fitness. Their analysis yields the factors; gross body co-ordinations and muscular explosiveness. Three items clustered under the curculio respiratory endurance factor; Pull-ups, Sit-ups and 600 yard run and
walk. The Shuttle Run, Standing Broad Jump and 50 yards dash clustered under the muscular explosiveness factors. The softball throw appeared alone under the gross body co-ordinations factors. These results indicated that fewer than seven dimensions of youth fitness were being measured by the AAHPER tests.

Both the age classification norms were revised (Hunsicher and Reiff, 1966) and published in the 1965 revision of the test manual. The classification norms were based on the combination of age, height and weight. The normative data in the 1965 manual showed considerable improvement on most test items for boys and girls at almost every age level.

In 1975 the battery was revised as follows:

1. The sit-ups were changed from a straight leg to a bent knee position to provide a more accurate measure of the strength of the abdominal muscles.

2. The softball throw was eliminated because it measured a specific skill to a large extent; whereas the primary purpose of the battery was to measure fitness.

3. The 600-yard and walk was modified to include two optional runs; the 1 mile of 9 minute run for
children aged 10 to 12 years, the 11\2 mile of 12 minutes run for children aged 13 or older. The optional runs were recommended as valid substitutes in schools where extensive running is a regular part of the physical education program.

In 1976 a revised set of age norms were published, and the use of classification norms was dropped. The organization of the test battery and the development of national norms represent a significant contribution to the physical education field. The test is popular in many parts of the United States for a variety of reasons. The items are motivating to students and the award system enables the students to receive national recognition for his or her performance on the test. Furthermore, many value the measurement of a combination of health related and athletic performance related fitness. However the test does not reflect a definition of health related fitness that applies to all individuals, as does the health related physical fitness test.

The youth fitness test is not a test that would appeal in its entirety to older age groups in general. Questions have also been raised about the measurement characteristics of the test, in particular, the validity and reliability. In the test manual no validation procedures are described for the individual test items, except for a general
statement of expert opinion regarding the important components of fitness. Reliability estimates for the various age groups on the battery items are not reported in the various age groups and the battery items are not reported in the manual. However studies of youth fitness test have been published in variety of journals, and an effort has been made to incorporate this information into the test descriptions. Generally these studies have reported the items in the youth fitness test have satisfactory reliability.\textsuperscript{17}

1.10.1 AAHPERD Youth fitness Battery

In 1958, the AAHPERD youth fitness battery was published as the first nation wide attempt to formulate a battery of fitness tests. Both the age and classification norms were raised and presented in the 1965 test manual. The battery included six variables and six test items.

\textsuperscript{17} Donald K. Mathews, Measurement in physical education, (Philadelphia; W.B. Sounders Company, 1945), P.72
<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>TEST</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Speed</td>
<td>50 yards dash</td>
</tr>
<tr>
<td>2. Shoulder Strength</td>
<td>Pull-ups for 30 sec.</td>
</tr>
<tr>
<td>3. Abdominal Strength</td>
<td>Bent-knee sit-ups for 60 sec.</td>
</tr>
<tr>
<td>4. Agility</td>
<td>Shuttle Run (4x10 Yards)</td>
</tr>
<tr>
<td>5. Endurance</td>
<td>9 mts./ 12mts. Run and walk.</td>
</tr>
<tr>
<td>6. Power</td>
<td>Standing Broad Jump.</td>
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### 1.11. SIGNIFICANCE OF THE AAHPERD YOUTH FITNESS TEST VARIABLES

#### 1.11.1. Importance of speed

One of the AAHPERD youth fitness test variables is speed. This can determine fastness of a person by his performance in 50 yards dash. Speed is a conditional ability. It has a complex nature as it depends to a considerable extent on the central nervous system. Speed ability should not be equated with mechanical speed, which is equal to the distance covered per unit of time. In several sports actions no distance is covered at all. Speed ability primarily signifies ability to execute motor movements with high speed; these movements may be cyclic in nature.  

18. Ibid. P. 215
Speed is the ability of an individual to perform successive movements of the same pattern at a fast rate, or even one single movement. The speed appears to be an innate quality. It can be improved by practice of the co-ordinated movements by learning proper techniques.19

Speed is an important ingredient in many sports. Speed in a sports context can have several different meanings, one being instantaneous speed, for example the speed at take-off in a jump or at release in throw, another being average speed over a 100 meters dash. Speed will mean maximal speed and thus apply to sports events where the highest possible speed is strived for in a single 21 short effort or in repeated maximal efforts together lasting less than about 10 seconds.20

1.11.2 Importance of shoulder strength

Another variable of AAHPERD youth fitness test is shoulder strength. Strength is a conditional ability. The traditional way of building strength is to get the muscles into action by increasing the resistance offered to them. Strength is necessary for good appearance. Strength is basic to good performance in skill. Strength is valued

19. Ibid. P. 215
highly as a measure of physical fitness. Physical strength determines one's abilities, capacities and potentialities that an individual does exhibit. There are various other factors such as arm strength, grip strength as a whole. Among them arm strength is an important factor. There are number of physical exercises and activities which develop arm strength to a great extent.

Strength is the ability or the capacity of a muscle or muscle group to exert force against resistance. Strength is inextricably related to motor performance. Muscles that are strong result in better protection of body joints and fewer sprains, strains and other muscular difficulties. Muscle strength helps in maintaining proper posture.

Strength depends largely on the energy liberation process in the muscle. It is also perhaps the most important motor ability in sports as it is a direct product of muscle contractions. All movements in sports are caused by muscle contractions and therefore, strength is a part of all motor abilities, technical skills and tactical actions.

Strength training, therefore, assumes high importance for achieving good performance in all sports.
The arm and shoulder strength can be determined by the individual’s performance in pull-ups for the boys. Shoulder strength was selected for norms construction taking into consideration the above importance.

1.11.3 Importance of Abdominal Strength

Another important variable of AAHPERD fitness test is abdominal strength. The abdominal muscles and oblique muscles that flex, and twist the trunk, respectively are referred to as the mid section muscles. Although most mid section exercise involve Hip flexion, this is not really a function of the mid section muscles. Hip flexion is actually performed by the quadriceps and the underlying iliopsoas and pectineus muscles. Because traditional sit ups involve both trunk flexion and hip flexion, the abdominal are the prime mover muscle group for the first phase of the movement but the hip flexors are responsible for the second phase of the movement. While there is nothing wrong with exercise that combines trunk flexion and hip flexion, specialized movements will be presented for those people who prefer to train the mid section muscles independently.
The tightened abdominal muscles help to produce a stream-lined appearance.

A sit-up is basically an exercise for the lower back but it also brings abdominal muscles into action. Since it is difficult to isolate these muscles with a particular movement sitting up is commonly used to strengthen the abdominal wall.

The abdominal strength is very useful in the field of sports and games. When an individual possess a high degree of abdominal strength he will be able to perform any type of activity such as running, jumping and throwing. The physical educator should also possess a very good abdominal strength as they are fully engaged in the field in various types of activities and to perform certain level they need to possess the abdominal strength. The abdominal strength helps to maintain the body posture there by involving in many activities in the field of sports and games. Shifting a load or moving an inanimate or animate object essentially depends on the abdominal muscular strength.

Considering the above facts the abdominal strength was selected for the study.
1.11.4 Importance of Agility

Agility is another important component of AAHPERD youth fitness test variable. Performance in shuttle run reveals the agility of an individual.\textsuperscript{20}

Johnson and Nelson say, “Agility may be explained as the physical ability which enables an individual to rapidly change body position and directions in a precise manner”.

In any physical activity or in a game situation, the controlled ability to stop, to start and to change direction rapidly and more quickly, is a very essential factor and this quality decided one’s performance level and the speed of acquiring any skill. The absence of that ability among the participants would spoil the original game score.

\textsuperscript{20} Gerhardt Schmolinsky: Track and Filed (Berlin; Sport verlag Pub., 1978), P. 89.
Agility is necessary pre-requisite for all physical exercise requiring the participation of the whole body and the interplay of all groups of muscles.

Agility plays significant role in the training of technique and in competition. The aim in training skills is to bring the athlete closer and closer to the ideal form of the sequence of movement.\textsuperscript{21}

1.11.5. Importance of Endurance

Another variable of AAHPERD youth fitness test is endurance and at 9 mts / 12 mts. Run and Walk test will measure the endurance.

Endurance represents the capacity of the athlete for continuous performance of relatively heavy localized activity, which may make only small demands on the functions of respiration and circulation before\textsuperscript{22} exhaustion sets in the more often a muscle performs a movement in training, over the same range, against the same resistance, and at the same frequency and speed as required in competition, then the less likely it becomes locally fatigued by that movement during competition. The improvement is primarily due to the functional
involvement of more muscle fibers (motor units) as a result of overload. Overload also improves the utilisation of oxygen by involving more capillaries, thus providing the working muscles with more oxygen and fuel, as well as facilitating the removal of the metabolic waste products of strenuous exercise.\footnote{Endurance is a conditional ability. It is primarily determined by energy liberation processes. The ability of human body to maintain a certain level of energy production forms the physiological basis of endurance. Endurance is a very important ability in sports. Endurance is the product of all psychic, physical and physiological systems. No other motor ability depends so much on the working capacity of complete psychophysical apparatus of human on the working capacity of complete psychophysical apparatus and the results are directly or indirectly affected by endurance.\footnote{Hardayal Singh, Op. Cit. P. 130.} A. Baumgarther and Andrew S. Jackson, Measurement for Evaluation in Physical Education and Exercise, (3rd Ed.: Dubuque, IOWA: W.M.C. Brown Publications, 1987), P. 278.}
1.11.5 Importance of power

Power is another variable of AAHPERD youth fitness test. Performance in standing broad jump reveals the explosive power of an individual. Need of powerful standing broad jump is highly essential in relation to the energy used in jumping, sprinting, kicking etceteras. The strengthening exercises like pull-ups, weight training, running up hill at speed etceteras will give explosive power.

Explosive power is the ability to release maximum muscular force in the shortest time as in executing a standing broad jump.

The explosive power measurement is expressed in terms of the distance through which the body or an object is propelled through space. The standing broad jump is the common test of explosive power. The standing broad jump includes projecting the body into air. The main propulsive force come from the legs in standing broad jump. Leg explosive power is most important for field events like standing broad jump, running broad jump and high jump.
1.10. STATEMENT OF THE PROBLEM

The purpose of the study was to compare the physical fitness components among Rural and Urban School boys.

1.11. HYPOTHESES

1. It was hypothesized that there may be significant difference on physical fitness among Rural and Urban School boys.

2. It was also hypothesized that Rural School boys may be better in the physical fitness than Urban School boys.

1.12. SIGNIFICANCE OF THE STUDY

The study would be significant in the following ways.

1. This study would help to know the awareness of physical fitness of the Rural and Urban School boys.

2. This study would show the superiority in the physical fitness of the Rural and Urban School boys.
This study would help to suggest the physical education programme to achieve the object of physical fitness.

This study may be more beneficial to budding researchers especially in the area of physical fitness.

This study can be valuables for motivation in sports activity for the Rural and Urban School boys.

1.13. DELIMITATIONS

The study was conducted only among the School students of Rural and Urban areas of Kadapa District. The study was conducted only on AAHPERD youth Physical fitness variables namely speed, abdominal strength, shoulder strength, agility, endurance and power on only class IX and X students. The data were collected from 500 students of following Schools in Kadapa District.
3.1.1. **RURAL AREAS:**

1. Z.P.H.SCHOOL G.K. PACHAPALLI
2. Z.P.H.SCHOOL T.SUNDUPALLI
3. Z.P.H.SCHOOL RAYAVARAM
4. Z.P.H.SCHOOL PINCHA
5. Z.P.H.SCHOOL MADITHADU
6. Z.P.H.SCHOOL THIMMA SAMUDRAM
7. Z.P.H.SCHOOL PEDDINENIKALVA
8. Z.P.H.SCHOOL CHANDRAJU PALLI
9. Z.P.H.SCHOOL KONDALTHURPU
10. Z.P.H.SCHOOL CHERUVUKINDAPALLI

**URBAN AREAS**

1. C.S.I.HIGH SCHOOL KADAPA
2. MUNICIPAL HIGH SCHOOL KADAPA
3. NAGARJUNA HIGH SCHOOL KADAPA
4. St. JOSEPH HIGH SCHOOL KADAPA
Rural area: - It is the area, which is situated in
countryside, is called rural area.

Urban area:  - It is the area, which is situated in Town &
City.

1.14. LIMITATIONS

1. The effect of the external factors like climate
atmosphere, temperature weight and body
structure, which would have an effect on the
results of the study, was considered as limitation
for the study.

2. No special motivation techniques were used during
the collection of data. Therefore the differences
that might have occurred in the test due to the lack
of motivation were recognized as limitation for
this study.
3. The differences that existed among the subjects due to the varied social, cultural, economical, religious backgrounds were considered as limitations.

1.15. DEFINITION OF TERM

1.17.1.1 Test

The is specific tool, procedure or technique used to elicit a response from the students in order to gain information to be used as a basis for appraisal of the quantity or quality of elements such as fitness, skill knowledge and value.25

1.17.2 Speed

It is the capacity of the individual to perform successive movements of the same pattern at a fast rate.26

25. Ibid

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It is the capacity of the individual to perform successive movements of the same pattern at a fast rate.26

25. Ibid

1.17.3. **Strength**

Strength is the force that a muscle or muscle group can exert against a resistance in one maximum effort.²⁷

1.17.4. **Muscular Strength**

Muscular strength is defined as “The maximum force or tension level that can be produced by the muscle group”.²⁸

1.17.5. **Muscular Endurance**

Muscular endurance is the “The ability of the muscle to maintain sub maximum force level for extended periods”.²⁹

1.17.6. **Endurance**

Endurance is the ability to keep on exerting force against a resistance. Cardio – Vascular endurance relates to the whole body. Local muscle endurance relates to specific limbs or muscle groups.³⁰

²⁷. Ibid, P.262
²⁹. Ibid
1.17.7. **Power**

Power is the capacity of the individual to bring into play maximum muscle contraction at the fastest rate of speed.45

“Power is the ability to generate maximum force in minimum amount of time”.31

1.17.8 **Agility**

Agility is the capacity of an individual as measured by rate of change of his position in space. It is another component it was measured.32

It is an important ability in any sports activity. According the Johnson and Nelson agility may be defined as the Physical activity, which enables an individual to rapidly change body position and direction in a precise manner.33

31. Ibid. P. 215
32. Safrit, Op. Cit., P.334,
33. Mathew, Op. Cit., P.144
Table 2.1
Growth Rates in GSDP-Andhra Pradesh and All India

<table>
<thead>
<tr>
<th>Period</th>
<th>GSDP Growth (percentage)</th>
<th>Per capita GSDP Growth percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Andhra Pradesh</td>
<td>All India</td>
</tr>
<tr>
<td>1980-81 To 1990-91</td>
<td>5.50</td>
<td>5.37</td>
</tr>
<tr>
<td>1993-94 To 2000-01</td>
<td>5.31</td>
<td>6.13</td>
</tr>
</tbody>
</table>

Source: Based on the data from Directorate of Economics and Statistics, Hyd.
Note: 2000-01 data refer to quick estimates.

The above Table 2.1 gives the rate of growth of GSDP of Andhra Pradesh for two periods viz, 1980-81 to 1990-91 (1980s) and 1993-94 to 2000-2001 (1990s). It shows that the growth rate in 1980’s for Andhra Pradesh was 5.5 per cent per annum. As compared with the 1980’s, the GSDP of Andhra Pradesh recorded more or less similar rate in the 1990’s as about 15.31 per cent per annum.

Per capita GSDP in the 1980 in Andhra Pradesh was 3.33 per cent per annum in the 1990s. It is significantly increased to 4.04 per cent. The increase in per capita growth in the 1990s was due to lower population growth. Welfare programs in the last two decades and women empowerment might have contributed to lower population growth in the 1990s.