CHAPTER - I
INTRODUCTION

“OUR MODERN LIFE-STYLE FOSTERS UNFITNESS”
(Bud Getchell, 1976)

Good health and physical fitness can not be taken for granted, especially with today’s sedentary, automated and computerised life-styles. Day to day technological advances are curtailing physical exertion from every day’s activities. New inventions’ of science and technology i.e., time saving machines, electronic media and computerization, in public and private sector, have not only influenced the normal life of the people, but have greatly affected the physical fitness of youth, which is causing enormous damage to the health.

Concept of physical fitness is as old as mankind. Keeping in mind the survival of the fittest, down through the ages, only strong and agile people could defend invaders, protect themselves and their property. It is a hard fact that physically fit people are in a better position to bear the rigorous and abnormal stress and strain, than those. Who are less physically fit. The basic movements like running, jumping, climbing, throwing, lifting, etc. require specific physical attributes such as muscular strength, muscular endurance, cardio-respiratory endurance, strength, balance and co-ordination.

Modern life style has, however, compelled each of us into an increasingly sedentary existence. “Homo sapiens” have been dramatically transformed into “Homo-sedentariers”. Human body, designed and created for
movements of vigorous activities, is developing serious implications for the health and well-being. Mainly due to sedentary lifestyle and lack of physical activity, a new category of diseases, termed hypokinetic diseases (diseases resulting from lack of exercise) are affecting the modern youth. It also includes coronary heart diseases, hypertension, obesity, anxiety, depression, and low back problems, etc.

Research has shown that regular physical exercise enhances the mobility of joints, increases the sense of physical well-being and promotes a sense of "feeling good." It decreases the risk of some serious diseases that lead to early disability and death. In addition, physical activity provides an outlet for the dissipation of tension and mental fatigue, aids in weight reduction and control, improves posture, contributes to a youthful appearance, enhances one’s self-image, and increases general vitality.

Modern life is most competitive, and the growth of industrialization and development of science & technology have contributed to its intensity and affected a change in the lifestyle of human beings. A fit person in a modern competitive world according to Frost (1971) is free from diseases, possesses adequate strength, endurance, and agility, has skill to live a productive and happy life, and also knows how to relax. Fitness would imply that in addition to demonstrating acceptable degrees of performance in physical attributes, the individual must demonstrate social adaptability, emotional stability, and mental efficiency.
Clarke (1978) has thus exhorted that physical fitness is a vital, biological need, the neglect of which handicaps the total effectiveness of the individual.

Since, the days of early Greeks, the important objectives of physical education was to make a man physically fit. In fact, physical education was synonymous to physical fitness in philosophy and practice both. Physical fitness is one of the vital aspects of an individual’s total personality, which is reflected through the all round development of an individual, who possesses qualities of physical fitness, mental alertness, emotional balance and social adjustment. Physical fitness provides sound foundation to all these qualities which are essential factors for total fitness.

Physical fitness is not a static factor, as it varies from person to person, and in the same individual varies from time to time, depending on numerous influencing factors, such as the genetic code, the hormonal and the environmental determinants.

Total fitness comprises of many different components. These components can be classified into two categories: (i) those pertaining to health (ii) those pertaining to motor skill performance. Health related fitness is concerned with the development and maintenance of fitness components that can enhance health through prevention and remedial measures. Health related fitness enhances one’s ability to function efficiently and maintain a healthy lifestyle. Thus, health related fitness is important for all individuals throughout life. On the other hand motor fitness emphasizes the development of those
qualities that enhance the physical performance. Whereas health related fitness is concerned with living better. Motor performance fitness is concerned with performing in skill more effectively. Moreover, motor performance fitness is specific to the sport or activity, in which, the individual engages.

Physical fitness also provides a strong base to salient qualities that enable a person to perform well in vigorous physical activities or to react well according to the situations. These qualities include agility, endurance, flexibility and strength. Physical fitness and good health are not the same, but are interdependent. Healthy people may be physically unfit because they do not exercise regularly. Physically fit people perform usually their routine tasks easily without tiring.

Physical fitness is as important for a person with a white collar job as for a person who pursues sports as a profession. Productivity is directly related to human efficiency and human efficiency depends on physical proficiency attained through adequate laws of physical fitness. Similarly a person who engages in sport as a profession must possess much higher levels of physical fitness. Further physical fitness is also essential for everyone to live a happy life, thereby, emphasising the individual values attached to being physical fit.

Undoubtedly the term physical fitness has been very widely employed by the physical education researchers, because the total philosophy of physical education is peripheral to the main objective of obtaining sound physical fitness for every individual. Inspite of this there is no settled view by the
physical educationists regarding the definition of physical fitness. This does not mean that the difference of opinion varies with the very concept of physical fitness. The difference, of opinion, however, mainly resolves around the discussion as to what components constitute physical fitness. The general agreement has been that strength, cardio-respiratory endurance and muscular endurance constitute physical fitness, because a minimum amount of strength is required to perform body movements and muscular endurance is essential to sustain continuance of movements and cardio-respiratory endurance is vital as an organic function. There is, however, now increasing emphasis to include flexibility as a component of physical fitness. Flexibility is related to perform minimum required range of movement, specially at the spine. Infact some times lack of spinal flexibility is thought to be an indication of ageing process.

Physical fitness is very vital for all human beings because efficiency of work can not be sustained unless one possess a required level of physical fitness which is related to the task to be performed.

Realizing the vital role of physical fitness in the lives of ordinary citizens, Govt of India, at various levels, have developed schemes through which the fitness of its citizens may be improved across all ages. National physical fitness programmes launched by Govt. of India which was implemented through state governments, was one such programmes. Recently the media has played very important role in making people aware about the value of physical fitness. This has resulted in a large majority of citizens.
specially youth, joining health clubs and becoming aware about the values of physical fitness. This has also been encouraged as a result of many fitness programmes being shown on the T.V. This has set in a new trend.

Physical fitness plays an equally important role, rather it provide very strong foundation for those who wish to engage in competitive sports. Therefore its need has been fully realized by all the nations who are looking forward to perform well at the International Competitions in various games & sports. In fact a much louder hue and cry in our country has been made by sports organisers, physical education experts and others who are directly or indirectly related to the promotion of sports that our utter failure in International competitions is due to lack of physical fitness among our sports persons. This has necessitated more concentrated efforts to ensure scientific development of training programmes.

Another emphasis that is being placed by our sports promoters and experts is related to making very strong base at school level, where concentrated efforts should be to develop physical Fitness of the school going youth and also develop fundamental skills at a young age, which should gradually lead to achieving higher performance in a more specialized manner forming a narrowing down pyramid. For achieving this objective the role of motor fitness becomes very important.

Although the term ‘motor fitness’ (while often used synonymously with physical fitness) is coined to include elements which involve motor abilities
than merely those of basic components of physical fitness. Yet, it does not encompass the various neuromuscular coordination skills which make up general motor ability. Motor fitness takes into account efficiency of basic movements and, therefore, would involve such elements as power, agility, speed and balance.

“Motor fitness is the final criterion through which all other elements of physical fitness or total fitness are seen and measured in man”. (Brock 1941).

“Motor fitness is gauged by performance and this performance is based on a composite of many factors. The most commonly mentioned fitness factors are strength, endurance, power, speed, agility, balance, flexibility and stamina. Some of these factors evidently are more dominant than others and thus have a higher relationship with motor fitness”. (Barrow and Rosemary, 1979).

According to Cureton (1947), motor fitness, though not concerned with specific skills, involves those components which contribute to gross performance in motor activities. Essentially motor fitness is the ability to perform the large muscle movements efficiently and exhibit endurance under sustained efforts in various situations.

Hoffman, (1955). concluded that the rate of learning in large muscle skills was independent of age and sex over the range of six to twenty-six years and that no sex differences were found in motor learning ability in that age range.
Landiss, (1955). found that out of eight activities studied, the tumbling, gymnastics, and wrestling appeared most effective in developing those abilities measured in the Larson Test of Motor Ability.

Smith, (1956). concluded that boys were found to be superior to girls on all motor ability, and educability tests and practically in all physical skills.

A battery of physical performance tests was selected by Fleishman (1964) on the basis of the factors isolated from much larger batteries of tests. The factors identified in two separate studies were combined into one test battery called the Basic Fitness Test Battery. Ten basic fitness test items which form this test battery are extent flexibility, dynamic flexibility, shuttle run, softball throw, hand grip, pull ups, leg-lifts, cable jump, balance and 600 yards run walk.

Bitcon (1966) constructed norms tables for the students of grade 9-12. The battery included four items viz. Pull-ups, two minute sit-ups, standing broad jump and 30 feet shuttle run. Validity and reliability of these norms were compared with those of AAHPER Youth Fitness Test.

According to Mathews (1973) “A child who is fit enjoys robust health, a fine looking physique, a satisfactory level of social and emotional adjustment and self sufficiency in the basic skills of movements”.

According to Butcher (1975), the word motor has been derived from the relationship of a nerve fibre or gangline that connects the central nervous system with the muscle.
Gallahue (1975) observes that movement education among pre-school and pre-grade children basically involves the development of fundamental locomotor, manipulative, and stability movement abilities. One finds that these categories permit human movement from infancy through adulthood. Thus locomotor, manipulative and stability movement activities are experience, which may be classified motorically into developmental stages.

Barbanti (1983) established physical fitness norms for Brazilian school children. In the physical fitness test battery he included sit and reach test, modified sit ups test, nine minute run, 12 minute run, 50 metre dash and standing long jump. The tests were administrated to 2,342 school boys and girls.

The central Advisory Board of Physical Education has given a very serious thought to it and have recommended that physical education must be introduced at all levels of school education. A sub committee on physical education of CABE suggested a syllabi to be introduced at primary, middle and secondary school level. The syllabi emphasised development of fundamental skills at primary school level and development of specific sports skills at middle and secondary school level leading ultimately to higher specialization in one chosen sports by the child. The recommendations of this committee has been accepted by various states and are being implemented in a phased manner.

The difficulty, however, is felt in implementing this programme because of the lack of vital statistics with respect to the status of children, the
socio-economic background, the facilities and finances available in the schools and the present status of the children in the schools in respect to their physical, nutritional and social status. Hence in the absence of these vital static's the effective implementation of any programme of physical Education, or implementation of sports promotion programmes shall not bear any fruit.

Even though some efforts have been made by earlier researchers to study physical fitness and related problems. One such scientific attempt to formulate national norms was undertaken by the AAHPER (The American Association for health, physical education and recreation). A specific committee of the AAHPER developed a test battery in 1957. After some improvements youth fitness test consisting of six items both for boys and girls of 10-17 years of age, college men and women were established. These norms were revised and were made more valid and reliable after having them compared with the achievements of the youth of Great Britain, Japan and other countries (AAHPER, 1962).

Singh (1986) prepared physical fitness norms for high school boys of Punjab state. The test administered consisted of eight items i.e. standing broad jumps, sit and reach test, agility run, bent knee sit ups in one minute, 50 metres run, and 600 metres run/walk. The percentile norms for physical fitness tests were found to be valid and suitable to assess the physical fitness level of the high school boys aged 12 to 15 years.
Singh Ajmer (1986) undertook a study to prepare norms for college students of Punjab University, Chandigarh. Data was collected on four thousand students. Fleishman’s test battery was used on 17 to 22 years old students. He found that physical fitness improved linearly according to the age, and the students belonging to the rural area were significantly superior in their performance on different items. The percentile norms for physical fitness test were valid and suitable to assess the physical fitness level of college students.

“The term physical fitness and motor fitness are often used interchangeably, but motor fitness is actually a wider concept, including both physical fitness and motor ability factors”.

The state of Punjab has an enriched heritage in the field of sports and games & there is a sports culture in the state. Infrastructures for sports is available in urban and rural areas. Adequate coaches are available. But, the results at the senior secondary level are not encouraging. One major reason for this is lack of vital statistics pertaining to the students population regarding their fitness level and aptitude. Much less information is available about girls. No one has, up till now, explored the varied motor fitness profiles of rural & urban senior secondary girls. This is essential to guide the students in respective, appropriate and suitable games & sports as per their fitness profiles. Moreover, the comprehensive programme can be prepared separately for urban & rural girls. Norms are to be prepared to compare the individual or groups to formulate their training or performance related programmes. These standards
can be obtained by converting the raw scores into a score capable of comparison and interpretation.

The analysis of the review of literature has indicated that no one has made efforts to prepare norms /standards of senior secondary girls, aged 16-17 years, of rural & urban areas of Punjab by assessing their performance related fitness. Many programmes of fitness were introduced by govt. of India or by the concerned states to inculcate interest among the youth towards performance related fitness. But no specific efforts have been made in this regard.

Hence this study is a major step forward to attempt the motor fitness of school going female youth in Punjab & to study the differences that may lie in the rural and urban population in this regard. Through such a study, it may be possible to make practical suggestions based on the findings, for implementing programmes of physical education and sports promotion and achieve good results.

1.1 STATEMENT OF THE PROBLEM

The purpose of the present study was to measure the motor fitness of rural and urban girls of sixteen and seventeen years of age studying in the senior secondary schools of Punjab.

1.2 DELIMITATIONS

1. The study was confined to the motor fitness test items of AAHPER Youth Fitness Test. (1976)
2. The study was further delimited to the rural and urban girl students of different Govt. and Government recognized senior secondary schools of Punjab state.

1.3 LIMITATIONS

1. The data in motor fitness components was collected from a total of 80 schools which were spread over a fairly large geographical area. Hence it was not possible for the investigator to collect all the data personally. Therefore cooperation of physical education teachers of respective schools was required. All these teachers were fully qualified and had technical knowledge about the conduct of test items employed in this study. Detailed instructions were also handed over to these teachers. They ensured full cooperation. Inspite of this, any differences in collecting data due to lack of motivation was taken as limitation of the study. Further, selection of data was to be carried out according to timings made available by the schools. The differences in performance that must have accrued as a result of differences in time of testing and the total period for data collection was also recognised as a limitation of the study.

2. The subjects were selected by categorically classifying schools into rural and urban areas. However, there must have been overlapping of student population due to various factors i.e. some student belonging to rural population may be studying in urban schools and vice versa. Any
difference in performance that must have resulted on this account was also accepted as limitation of the study.

1.4 OBJECTIVES OF THE STUDY

The study will have following objectives:-

1. To investigate motor fitness of Senior Secondary school girls.

2. To prepare norms of motor fitness components of subjects belonging to rural and urban areas of Punjab State, separately.

3. To compare the performance of senior secondary girls belonging to rural and urban areas on motor fitness components.

1.5 HYPOTHESIS

It was hypothesised that there would be no significant differences in motor fitness components between urban & rural girls of sixteen and seventeen years of age.

1.6 DEFINITIONS AND EXPLANATIONS OF THE TERMS USED

Following are the operational definitions of the terms used in this study:-

1.7 MOTOR FITNESS

“Motor fitness is a readiness or preparedness for performance with special regard for big muscle activity without undue fatigue. It concern the capacity to move the body efficiently with force over a reasonable length of time.” (Barrow and Mcgee, 1979)
1.8 NORMS

“A norm is a standard to which an obtained score may be compared.”
Norms are often assumed to be representative of larger population.
(Mathew, 1978)

1.9 RUNNING SPEED

“Speed is the ability of an athlete to overcome resistance by high speed
of contraction.” (Harry, 1982). Running speed is the ability to cover distance
per unit of time.

1.10 AGILITY

“Agility is the physical ability which enables an individual to rapidly
change body positions and directions in a precise manner.” (Johnson &
Nelson, 1979)

1.11 STRENGTH

“It is the capacity of the individual to exert muscular force.” (Barrow &
Mcgee, 1982)

1.12 MUSCULAR STRENGTH

“Muscular strength may be defined as the maximum amount of force
that a muscle or muscle group can exert.” (Marley, 1982)

1.13 CARDIO-RESPIRATORY ENDURANCE

“The ability of the circulatory and respiratory systems to adjust to and
recover from the effects of exercise or work”. (Bary & Johnson, 1982)
1.4 MUSCULAR ENDURANCE

“Muscular endurance is a capacity of the muscle or muscle group to perform repeated contractions or to maintain an isometric contractions for an extended period of the time.” (Marley, 1982)

1.15 POWER

Power may be defined as “the ability to release maximum force in the fastest possible time, as is exemplified in the vertical jump, broad jump, the shot put and other movements against a resistance in a minimum of time.” (Johnson & Nelson, 1982)

1.16 URBAN

For the present study all the cities which come under the Municipal Corporation, Municipal Committee and notified area Committee were considered as urban areas of Punjab State.

1.17 RURAL

The villages which come under the village panchayats and are out of the jurisdiction of urban authorities were considered as a rural area.

1.18 SIGNIFICANCE OF THE STUDY

There is an increasing realisation to include physical education as an academic subject in the schools at all levels of education. One of the most important aspect of physical education programmes is the development of motor fitness to help the child to improve fundamental skills. Evaluation is an
integral part of this process. Through evaluation the progress being made by the children can be studied. Another important aspect of physical education programmes in the schools is to encourage participation in competitive sports. The development of motor fitness again becomes very important to help the children to successfully participate in competitive sports and due to lack of information about motor fitness levels of children at all levels, it is not possible to develop any scale for evaluation purposes. It is not also possible to give them a scientifically designed programme to help them develop their fundamental sports skills. The result of the present study may, therefore, help in the following ways.

The present study will have the following implications.

1. It will help the teachers of physical education to make physical education programmes according to the motor fitness status and need of the students.

2. The study will highlight the differences between rural and urban girl students on different motor fitness variables such as endurance, strength, power, agility and speed.

3. A set of norms for motor fitness test items will help the teachers of physical education to classify the students into homogeneous groups for various physical education programmes.

4. Norms will help in grading the students according to their motor fitness status for the purpose of practical examination.
5. Norms will also help the coaches / trainers to formulate performance related fitness programme for varied sport disciplines.