CHAPTER I

INTRODUCTION

The future of a nation depends upon the future of its children. Their development goes a long way in the development and well-being of the society, for they are the precious source to its rich and prosperous future. The overall national rating in each and every aspect of development, always depends, directly or indirectly, upon where its younger generation of yesteryears stood. Today's youngsters are bound to be tomorrow's foundation. Since so much is expected from the younger generation, it should be kept in mind that there are also several factors that underlie their future. One of these factors is motor fitness. And motor fitness alone cannot be taken for granted, for motor fitness itself is also influenced by several factors;

Since physical education has been accepted as an integral part of the overall educational process, it now bears the responsibility of an all-round development of a child. More active children are usually superior to their peers in maturity, body size etc. Modernization, urbanization and the consequent social changes have reduced the level of fitness among children. The children of developing countries, like ours, are far worse, they are
without minimum basic services in health care, nutrition and education.

If a child, during the elementary school years, does not measure up to the required standard of fitness, there are more chances of his posture being deformed. It is found that children brought up in slum areas and other unfavourable environments do not have correct posture. Due to malnutrition, lack of facilities etc., children tend to be gloomy and this in turn affects their fitness. Children of parents who are well-off may also grow up with deformed postures and might deviate from required levels of motor fitness due to inactivity during their school years.

Apart from shortcomings like poor or improper growth, mental and spiritual gloom or social drawback, that might crop up during childhood years, lack of motor fitness is one such risk which bears the tendency to grip an inactive child and accompany him or her through adolescence and adulthood alike. There are however more chances of one's motor fitness receding it's limits during the coming years if it is neglected. Lack of proper manipulation of motor components during childhood may result as a prevalent shortcoming, impacting physically and psychologically upon children and adolescents in the society. In the absence of a significant change in their exercise and dietary patterns, majority of inactive children will become inactive adults.
Many health problems relating to lack of sufficient motor exploitation do not manifest themselves during the childhood years, but the psychological effects, probably the most devastating and serious of all, are universally encountered. Inactivity begets a child to become unfit and obese. Overweight children are teased and ridiculed and are often left out of games, activities and athletics, thus becoming increasingly more inactive. Often times they withdraw and indulge in antisocial behaviour. Jean Mayer (1964) endorses this belief noting that no single factor is more frequently responsible for the development of obesity in children and adolescents than the lack of physical exercise.

A school physical education programme can be an invaluable source of support, information and help for the inactive and unfit child, poor in motor performance. A physical education classroom should not be one of the places an unfit child or teenager fears to enter due to the potential failure and ridicule which awaits him or her. Moreover, a physical education classroom can become a place where children and adolescents seek assistance for the purpose of developing and maintaining motor fitness. Children lacking in motor fitness will most probably be obese. And obese children have been found to have diets similar to their non-obese peers (Mayer, 1975; Beller, 1977; Coats and Thoresen, 1978; Ross, Daniel and Doughlas, 1980).
However obese children generally have much lower levels of activity than their non-obese peers. This pattern of lower activity levels has been found even among obese infants (Mayer, 1975). Just as inactivity plays a crucial role in the deterioration of motor fitness during childhood, vigorous motor activity can play a critically important role in the development and promotion of motor fitness and general overall well being during childhood years.

Motor fitness should be an important objective of physical education at all grade levels—kindergarten through college. Currently, motor fitness appraisal and guidance does not usually begin until fifth grade. This policy seems to be inconsistent with sound educational philosophy which suggests that evaluation should be an integral part of the teaching learning process. Clarke (1966) lends credence to the above thought "A truly great society must rest basically upon physically fit children and adults. Continuance of generally low level of physical fitness is a shocking waste of human resources."

A more limited phase of physical fitness is motor fitness. According to Barrow and McGee (1979), motor fitness is a readiness or preparedness for performance with special regard for big muscle activity without undue fatigue. It concerns the capacity to move the body efficiently with force over a considerable length of time.

Motor fitness may also be defined as a limited
phase of motor ability, emphasizing capacity for vigorous work. According to Jones et al. (1972), "A totally fit individual has the strength, speed, agility, endurance and social and emotional adjustments appropriate to his age". They further state that modern age is an age of technology which inhibits physical activity. Machines are used to perform much of our work and we are forced to lead a sedentary life. Our life span may be increasing but physical fitness is deteriorating. Most of our leisure time is also passed in a very inactive way - sitting in front of a television. Of all the ways in which twentieth century man has disavowed his biological inheritance, the diminished usage of his large muscles, is proving to be one of the most serious. For as man sits more and exercises less, he tends to violate his body's own wisdom. The wisdom of the body is such that man functions best when his skeleton is suitably clothed in muscle and subcutaneous fat. In a figurative sense this means that an individual has sufficient strength to "handle" his own body weight in a physical way, that is, running, climbing, jumping, swimming or engaging in relatively strenuous motor performance etc. The implications of this concept are far-reaching for it also implies possession of a number of measurable physiological and motor fitness aspects, such as cardio-respiratory endurance, agility, flexibility, power and many others.

Motor fitness is inclusive of the underlying
elements of vigorous physical activity. Typical of these elements are muscular strength, muscular endurance, cardio-respiratory endurance, muscular power, speed, agility and body flexibility. As a concept, general motor ability indicates one's level of ability in a wide range of motor activities, it's elements underlying performances in many motor complexes and the potential for motor and athletic competencies.

The implications of motor fitness extend far beyond the area of human movement. Singh, N. (1981) investigated the relationship of motor fitness with I.Q. at the primary school level. The findings were interesting which proved the commonly held belief that children with better levels of motor fitness were found also better on the I.Q. rating. However, the relationship of motor fitness with I.Q. in higher age groups had been found equivocal. The important point to be made is that at what age level the picture starts reversing and what social forces influence it and why. The science of growth and development has become an important aspect for healthful living and growth and development is being studied from different aspects in order to exploit it maximally and the knowledge of growth and development is also important for avoiding harmful effects of systematic physical training in school curriculum on growing children.

Motor development is undoubtedly the most
important aspect of growth and development which has direct implications for training youth and children. Studies on motor development have revealed that certain important prerequisites for top sports performance (e.g. speed, flexibility and coordination abilities) can only be optimally developed in childhood (Cratty, 1979).

The sports-conscious countries of today had long ago realized the importance of studying motor development of their children and youth. Being in possession of this valuable information to a significant extent, they had based their systems on training and competition of children and youth and talent identification and its promotion on this knowledge. Motor fitness of Indian children and youth has been very scantily explored. Till date many attempts have been made to study the growth and development of Indian children and youth including motor fitness, especially in northern part of the country. (Singh, L. 1964; Khajuria, 1968; Bansal, 1969; Sidhu, 1970; Singh, N. 1980; Singh, A. 1986; Singh, H. 1986; Singh, R.M. 1986; only to name a few).

Donald (1935) reported that increase in fitness depends less on the nature of the sport than on the methods used by instructors and supervisors in controlling students' activities.

Children and youth should want to be fit, unless this desire is resident in each child, the way of life that results in fitness will not be achieved. By the time
children leave school behind and enter into adult life, the importance of fitness in achieving personal ambitions and desires, in feeling well and happy, in living most and serving best, and in contributing to a strong nation must be included in every boy and girl. It is a challenge we must take up if we are not to become "a nation of softies". The evidence to date seems to establish that physical education programmes lead to improved physical and social fitness and health is vital to the education and academic achievement of every boy and girl. A child's earliest learnings are motor in nature, involving neuro-muscular systems and resulting in movements such as running, jumping, reaching for and the like, and form the foundation of subsequent learning. It is an accepted fact that a healthy body and a robust physique are pre-requisites for the healthy growth of mind and physical education is in process of change and transformation so that it is in the main-stream of academic life. In the changing social order and in the changing demands of the nation, this transformation of physical education finds meaning and purposive implications. When considering physical and motor fitness, attention must be given to body size and changes in the body's compositions that are influenced by the physical activity. Relative amount of muscle, bone, fat and the functional capabilities of cardio-vascular and respiratory systems have a pronounced influence of physical fitness. Motor fitness is much more
than physical fitness as human motor performance is a composite of many variables. One such variable is the structure of the body. The specific measurements of limb length, circumference, breadths and body-build indexes can reveal the relationship between the anthropometry of an individual and his motor fitness.

History points out that peoples and communities who cared for their health and well-being and engaged in vigorous physical activities, remained strong and prosperous, whereas those who neglected them, waned and perished. The great Roman civilization crumbled and came to an end precisely because its people, unproportionally affluent, took to a life of wanton luxury. They lost touch with physical education and sports and began to take interest in professional play. As a result, they became soft in mind, spirit and flesh. The lesson was borne out in Rome, as it has been in many other civilizations, which fell along the way, that for a nation to remain strong and endure, it must be physically as well as morally fit.

According to Featherstone (1965), "Modern civilization has made life soft and luxurious. The diminished physical efforts and artificial life are responsible for a physically weak population. People today lack both strength and endurance. The average man spends more time attending to his automobile than attending to the state of his health".
Cratty (1968) says that in childhood and adolescent periods, most often, physical ineptitude creates inferiority complex in an individual. Athletic success can help get rid of it and enhance one's self-esteem which ultimately depends upon the degree of physical fitness of the individual.

Physical education curriculum in Indian schools should give due place to physical fitness programmes as this will enable children to form habit for being fit like other habits that are picked up at this age. Administration and execution of physical education programmes in our schools being poor and not upto the mark, there is a total absence of fitness programmes. Current curriculum on physical education in schools has no emphasis upon individual needs and requirements of the students, let alone any considerations of proper supervision of physical education programmes. The entire physical education programme-cum-curriculum in Indian schools needs to be overhauled and redesigned, beginning from the individual state of physical fitness of school children because every school student need not excel in games and sports but a certain acceptable level of physical fitness and good health is a must for all.

The Government of India's resolution on national sports policy to involve youth in physical education and sports, laid in both houses of parliament in August 1984, had accepted the principle that it is the duty of both the
centre and state governments to accord the importance of participation in physical education and sports activities for good health, a high degree of physical fitness, increase in individual productivity, and also its value as a means of beneficial recreation and promoting social harmony and discipline. Therefore in order to achieve the objective of mass participation in physical education programmes in particular and sports in general, the Government of India had come out with a new education policy (1985-86) in which greater emphasis had been laid on the creation of infrastructure of sports and physical education in terms of facilities. It would not be possible to know the direction to be followed unless and until physical educationists in the country precisely know and understand the "human stuff" which they have to deal with. We are still in the dark about the physical, physiological or motor profiles of our school going population. Hence it would neither be possible to work for the upliftment of the health and physical as well as motor fitness standards of the children and youth of this country nor look for any positive outcome from school curriculum on physical education and health in the absence of a worthwhile survey on such topics.

It is acknowledged that persons of the same age will vary considerably in body size and shape; that individuals of the same height will differ greatly in body weight; that persons may weigh the same but the relative
proportions of muscle, fat and bone will be anything but equal. It is obvious then, that no single measure by itself is satisfactory for the purpose of classifying students into homogeneous groups (Johnson and Nelson, 1982).

The Indian society displays marked differences in socio-economic divisions of the people. Individual nutritional level, medical facilities, educational opportunities and other aspects of life are controlled by the existing socio-economic level of a family. Fitness status of the child is greatly influenced by the socio-economic status of his family because all other things being equal, it is the economic factor knitted into the social structure that has a role to play. Life styles of people are reflected in physical abilities depending upon the type of job one has to do. A child with poor health does not possess the same strength as a healthy child. Nutrition may be one factor to affect physical performance, structural variations are other important influencing factors because body type has a positive relationship to physical performance. It is presumed that socio-economic status of a child is very closely related to physical fitness, motor ability and health status. Children with high socio-economic status can be expected to have access to better education, food and nutrition, health care and other such facilities which are likely to positively affect their physical fitness, motor ability and health
status.

Motor ability skills are fundamentally universal in nature. Although they do furnish basis for specialized play and work skills, yet they are simple basic skills that are required in childhood and early youth. Through repeated play and movements, these basic skills become generalized and can be used for varied sports and to develop physical fitness (Barrow, 1983).

The studies conducted in the area of motor fitness mentioned earlier did not take into account the other variables which interfere with or facilitate motor fitness.

In our social milieu where socio-economic differences are so marked, any research on motor fitness will be incomplete without taking this factor into account. Similarly structural variations have been found related to athletic performance and motor fitness.

It is therefore obvious that motor fitness variables are subject to influence by socio-economic status and physical conditions to which the child is exposed and the pattern of interrelationship of these variables may vary across different socio-economic barriers. Varying levels of motor fitness may perhaps be attributed to socio-economic status and structural variations. This study may provide a suitable answer in this regard.
Statement of the Problem

The purpose of this study was to investigate the relationship of varying levels of motor fitness to socio-economic status and structural variations among school students in the age group of 14 to 16 years.

Objectives of the Study

1. To find out how motor fitness is related to socio-economic status.
2. To find out the relationship of motor fitness to structural parameters of students, e.g. endomorphy, mesomorphy and ectomorphy.
3. To find out how socio-economic status influences structural variations.
4. To study the phenomenon of motor fitness across age.
5. To study the structural parameters across age.

Hypothesis

1. Students belonging to higher level of socio-economic status would be better on different items of motor fitness.
2. Students with better motor fitness standards would
differ from lower motor fitness group on structural variations.

3. Students belonging to better socio-economic group would differ from lower socio-economic group on structural variations.

4. There would be significant differences on motor fitness across age, i.e. 15 year olds would be better than 14 year olds and 16 year olds would be better than 14 year olds and 15 year olds.

5. There would be significant differences on structural variations across age.

**Delimitations**

1. The study was delimited to the school students of fourteen through sixteen years of age.

2. The study was further delimited to the male students only.

3. The study was confined to the selected schools of the Union Territory of Chandigarh.

**Limitation**

Since motor fitness tests were conducted in different schools with the help of trained assistants under the personal supervision of the scholar, time variations
(time of day, month etc.) might have had some effect on the performance of the subjects. This was considered as the only limitation on this study.

Definition and Explanation of Terms

Motor Fitness

According to Clarke (1976), motor fitness is a limited phase of general motor ability with emphasis placed on underlying elements of vigorous physical activities, but do not include the primary elements of coordination and skill.

For the purpose of this study, motor fitness included the components of agility, flexibility, speed, explosive strength or power, strength endurance and cardio-respiratory endurance.

Socio-Economic Status

Sorenson (1977) writes that socio-economic status, in terms of primary conditions and characteristics, is determined through vocation, income and wealth, home and it's location, education, activities and associations.

Socio-Economic Status is the level indicative of both social and economic achievements of an individual and
For the purpose of this study, socio-economic status was the status that an individual gets in his society by virtue of meeting certain norms of job, income, caste, education, possession of consumer articles etc., indicative of his ranking in the hierarchy of social scale and economic level (Kapoor and Kochar, 1970).

Structural Variations

Zeigler (1982) writes that measurement of body size include such descriptive information as height, weight and surface area, while measures of body proportions describe the relationship between height and weight and length, width and circumference of various body segments.

Structural Variations in this study referred to somatotypes as obtained through Martin's Method of Somatotyping.

Significance of the Study

No individual should be deprived of education on the basis of caste, creed, colour and socio-economic status as education caters to the all-round development of an individual through disciplines evolved in the cause of mankind's quest for usable knowledge, cultural
understandings and intellectual power.

Though all the children of one class in a school are exposed to one curriculum and similar type of curricular activities in the same atmosphere, yet they differ in motor performance components and structural variations and have different patterns of interrelationship among these variables. This may be due to the reason that these children belong to different socio-economic groups.

The study would, therefore, make the following contributions:

1. The findings of this study will be of help to educators in understanding the interrelationships of varying levels of motor fitness and structural variations across different socio-economic barriers.

2. Parents and teachers lay great emphasis on classroom subjects at the cost of other very important aspects of education. The study results will enlighten the importance of physical, motor, health and socio-economic aspects of the educational system.

3. The findings of the study will be of significance in motivating other physical educators to take up
similar studies with some other variables and different category of students.

4. The findings of the study may be of help in evaluating school curriculum with respect to general motor fitness of the overall student population.

5. After having distinguished between school students on the basis of their socio-economic status and motor fitness levels and also establishing the relationship of these with one another, the physical educators may be able to look forward to an increase in individual productivity of school students during their exposure to the school physical education curriculum, that would be designed and administered to the students accordingly.