CHAPTER-I
INTRODUCTION

1.1 General Introduction

A child’s growth refers to many changes that occur in human beings between birth and the end of adolescence. And the individual progresses from dependency to increasing autonomy. It is a continuous process, has a predictable sequence and unique nature for every child. It progresses with varied rate and each stage is affected by the preceding stage’s development. Because these developmental changes may be strongly influenced by genetic factors and events during prenatal life, genetics and prenatal development are usually included as part of the study of child development. Developmental changes may occur as a result of genetically-controlled processes known as maturation or as a result of environmental factors and learning, but most commonly involves an interaction between the two. It may also occur as a result of human nature and our ability to learn from our environment (Toga et al. 2006).

There are various definitions of periods of a child's development, since each period is a continuum with individual differences regarding its start and ending.

Some age-related development periods and examples of defined intervals are: new born - ages from birth to four weeks, infant - ages four weeks to one year, toddler - ages one year to three years, pre-schooler - ages 4–6 years, school-aged child - ages 6–13 years, adolescent - ages thirteen to nineteen years (Kail, 2011).

Children and their wellbeing are basic concerns of every nation. Their health is not only an indicator to the socioeconomic status and standard of living of the country but also reflects the values and beliefs of society. A healthy child is a cause of happiness to the parents, eternal joy to the mother, apple of eye of the family, leader of the community, thrill of the society and hope of the nation. Basically, residential children live in school hostels without their family members. There are many reasons to send a school-age student to a residential school or to grow a hostel resident to schools with both the facilities of residential and non-residential. On the other hand non- residential children live in their home with their family members. Generally, the residential children are not guided individually to follow health conscious behaviour but they are more physically fit due to their inherent qualities and as they are to work hard for continuing their normal life. Because residential children do work on their on their own, but the non-
residential children are normally depend to their parents. So, they are in practicing health conscious behaviour but they are not physically fit and less self-dependent (Mukherjee et al., 2016).

1.2 Physical Growth

Physical growth in stature and weight occurs to the 18 to 20 years after birth, as the individual changes from the average weight of 3.5 kg and length of 50 cm at full term birth to grown up adult. As stature and weight increase, the individual's proportions also change, from the relatively large head, small torso and limbs of the neonate to the adult's relatively small head, long torso and long limbs. The speed of physical growth is rapid in the months after birth and then it slows. Birth weight is doubled in the first four months, tripled by the age of 12 months, but not quadrupled until 24 months. Growth is not uniform in rate and timing across all body parts during growth phase. At birth, head size is already relatively near to that of an adult, but the lower parts of the body are much smaller than adult size. Poor nutrition, frequent injury and disease can reduce the individual's adult stature, but the best environment increases stature, though it is determined by heredity (Tanner, 1990).

1.3 Mental Growth

After all, it is the world of adults that the environment imposes on the child so that at each stage the structures and contents of the mind display certain uniformity. But it does not follow that the adults need take into account only those aspects of a child's thought that the adults impose. Even the manner in which a child assimilates material may bear absolutely no resemblance to the way an adult utilizes it. If the adult surpasses the child, the child in his way surpasses the adult (Wallon, 2001).

Although a child's mental development presupposes a kind of network in which internal and external factors are intertwined, it is possible to unravel their distinct, respective roles. The internal factors are presumably responsible for the strict sequence of developmental phases, the chief determinant of which is the growth of the organs. Substances of relatively simple chemical composition seem to perform the decisive roles of stimulating and regulating the differentiation of organs. This differentiation sets the stage for the emergence of the future organism's structures from the embryo. These
substances are the hormones, secreted by the endocrine glands. Each hormone is endowed with a strict specificity, although hormones are often mutually dependent. They control the appearance and development of different kinds of tissues, and the sequence in which they are activated is precisely attuned to the needs of growth. In addition to their morphogenic role, they also exercise an equally specific elective action on physiological and mental functions. VonMonakow regarded them as the material substrate of the instincts (Wallon, 2001).

1.4 Stages of Development

The infant’s first affective manifestations are limited to cries of hunger or colic or to the calm of sleep or digestion. Their differentiation is initially very slow. But by the age of six months, the structured channels available to the infant for expressing his emotions are sufficiently diversified to serve as a broad osmotic surface with his human environment. This is a major stage in his mental development (Wallon, 2001).

After five years, school age begins; henceforth, interest will pass beyond the self to become involved with things. However, the transition is slow and difficult. Until the age of six or more, the child remains absorbed in his interests and activities of the moment. His activity has certain exclusivity. He is unable to shuttle rapidly from object to object or from task to task. In order to divert her young pupils' attention from what they were doing to a proposed new object of attention, one teacher hit on the idea of an automatic interruptive gesture, which the child executed whenever she gave the signal. The period from seven to about twelve or fourteen years is the age at which syncretism yields to objectivity. Things and the self gradually lose their quality of being fragments of an absolute, undivided experience that impose themselves successively on intuition (Wallon, 1965).

1.5 Social Growth

New born infants do not seem to experience fear or have preferences for contact with any specific people. In the first few months they only experience happiness, sadness and anger. A baby’s first smile usually occurs between 6 and 10 weeks. It is called a ‘social smile’ because it usually occurs during social interactions. By about 8–12 months they go through a fairly rapid change and become fearful of perceived threats. They also begin to prefer familiar people and show anxiety and distress when separated from them
or approached by strangers. Separation anxiety is a typical stage of development to an extent. Kicking, screaming and throwing temper tantrums are perfectly typical symptoms for separation anxiety. Depending on the level of intensity, one may determine whether or not a child has separation anxiety disorder. This is when a child constantly refuses to separate from the parent but in an intense manner. This can be given special treatment but the parent usually cannot do anything about the situation (Robinson, 2012).

The capacity for empathy and the understanding of social rules begin in the preschool period and continue to develop into adulthood. Middle childhood is characterized by friendships with age-mates and adolescence by emotions connected with sexuality and the beginnings of romantic love. Anger seems most intense during the toddler and early preschool period and during adolescence. Some aspects of social-emotional development, like empathy develops gradually, but others, like fearfulfulness, seem to involve a rather sudden reorganization of the child's experience of emotion. Sexual and romantic emotions develop in connection with physical maturation. Genetic factors appear to regulate some social-emotional developments that occur at predictable ages, such as fearfulfulness and attachment to familiar people. Experience plays a role in determining which people are familiar, which social rules are obeyed and how anger is expressed (Patterson, 2008).

Parenting plays an important role in emotional intelligence of a child. The amount of time mothers spent with their children and the quality of their interactions are important in terms of children's trait emotional intelligence, not only because those times of joint activity reflect a more positive parenting, but because they are likely to promote modelling, reinforcement, shared attention and social cooperation (Alegre, 2012).

1.6 Physical Fitness

Physical fitness is one’s richest possession. It cannot be purchased, but has to be earned through a daily routine of physical exercises.

It is self-evident that the fit citizens are a nation’s best assets and weak ones are its liabilities. It is therefore the responsibility of every country to promote physical fitness of its citizens because physical fitness is the basic requirement for most of the tasks to be undertaken by an individual in his/her daily life. If a person’s body is underdeveloped or inactive and if s/he fails to develop physical prowess, s/he is undermining
his capacity for thought and for work, which are of vital importance to one’s own life and society in a welfare state.

Physical fitness is the capacity to carry out reasonably well various forms of physical activities without being excessively tired and includes qualities important to the individual’s health and well being. Regular participation in vigorous exercise increases physical fitness. A high level of physical fitness is desirable for a full and productive life. Sedentary living habits and poor physical fitness have a negative impact on both health and daily living. 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, protects 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 (Kumar and Singh, 2012).

Physical fitness is a dynamic construct and is continually growing in importance to everyday life and health. Physical fitness is a complex term that cannot be captured in one definition. The World Health Organisation (WHO) has defined fitness as “the ability to perform muscular work satisfactorily.” While this may be an acceptable definition of the construct of physical fitness, the definition does not specify the ways that physical, social and psychological circumstances can vary to determine what is satisfactory, nor does it acknowledge that several abilities exists, rather than a single overall ability. Physical fitness is a general state of health and well-being or specifically the ability to perform aspects of sports or occupations. Physical fitness is generally achieved through correct nutrition, exercise, hygiene and rest. It is a set of attributes or characteristics that people have or achieve that relates to the ability to perform physical activity. Previously fitness was considered to be the capacity to carry out the day’s activities without undue fatigue. However with automation and changes in lifestyles physical fitness is now considered a measure of the body’s ability to function efficiently and effectively in work and leisure activities, to be healthy, to resist hypokinetic diseases, and to meet emergency situations (President’s Council on Physical Fitness and Sports, Archived on 25/08/2012).

1.7 Changing Concept of Physical Fitness

Concept of physical fitness has been changed over time. It has represented in a tabulation form in Table-1.
<table>
<thead>
<tr>
<th>Time frame</th>
<th>Various phases</th>
<th>Meaning the Contributors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-10,000 BC</td>
<td>Primitive Humans And Fitness</td>
<td>Physical fitness defines life of survival (Eaton, Shostak and Konner, 1988).</td>
</tr>
<tr>
<td>10,000-8,000 BC</td>
<td>Neolithic Agricultural Revolution</td>
<td>Farming and agriculture begin the life of struggle (Garmsey, 1999).</td>
</tr>
<tr>
<td>2500-200 BC</td>
<td>Ancient Greek Civilization</td>
<td>Exercise for the body and music for the soul with the view of life of significance (Wuest &amp; Bucher 1995).</td>
</tr>
<tr>
<td>2500-200 BC</td>
<td>Ancient Civilizations</td>
<td>Philosophical developments in China and India physical fitness given less importance (Wuest &amp; Bucher 1995).</td>
</tr>
<tr>
<td>476-800</td>
<td>Dark Age</td>
<td>Fitness experienced a revival since physical activity was viewed as a means for survival (Randers-Pehrson, 1993).</td>
</tr>
<tr>
<td>900-1400</td>
<td>Middle Ages</td>
<td></td>
</tr>
<tr>
<td>1400-1600</td>
<td>Renaissance</td>
<td>The foundation for widespread physical education in Europe was established during this time (Hay, 1986; Hale, 1994).</td>
</tr>
<tr>
<td>1700-1850</td>
<td>National Period in Europe</td>
<td>The modern fitness movement was started. Guts Muths- “Grandfather of German Gymnastics” (Matthews, 1969; Welch, 1996).</td>
</tr>
<tr>
<td>1700-1776</td>
<td>Colonial America</td>
<td>The colonial lifestyle requires physical fitness for survival (Keller, 1971).</td>
</tr>
<tr>
<td>1776 to 1860</td>
<td>United States National Period</td>
<td>Physical education was missing from the public education system for most of the nineteenth century (Weleh, 1996; Karolides, 1993).</td>
</tr>
<tr>
<td>1865-1900</td>
<td>Post-Civil-War United States</td>
<td>Edward Hitchcock, William Anderson, and Dudley Sargent were the key figures in the modern physical education movement of this era (Hoeger and Hoeger, 1999; Rice, Hutchinson and Lee, 1958).</td>
</tr>
<tr>
<td>1940’s, ‘50’s and ‘60’s</td>
<td>Worldwide</td>
<td>Lifestyle improvements resulting from the Industrial Revolution were understood to have a negative effect on health. Neuro-muscular and Motor Fitness development notable fitness figures during of this time included: Dr. Thomas K. Cureton 1940’s), Jack L.A.Lane and Kraus-Hirschland (1950’s), President John F. Kennedy and Dr. Kenneth H. Cooper (1960’s).</td>
</tr>
<tr>
<td>Post-1960’s–1980</td>
<td>Worldwide</td>
<td>Physical fitness has not made significant headway, even in the past thirty years form organic fitness development (Kernodle, 2011)</td>
</tr>
<tr>
<td>1980-Onward</td>
<td>Worldwide</td>
<td>Health-related physical fitness development</td>
</tr>
</tbody>
</table>

1.8 Significance of Physical Fitness in Daily Life

The quality and quantity of the food and drink we consume has attracted a great deal of attention. Less significance has been attached to the volume and nature of calories we expend through physical activity. However, investigation of the evolution of the human form shows how closely they are bound. The human as hunter-gatherer
developed an efficient endurance system, an ability to produce powerful energy output when required and a capacity for energy storage. Energy had to be expended to seek food which was often spread over wide distances. Over a period of several million years this helped humans to be highly successful survivors. It is ironic that the pace of change in the environment in developed countries in the last century has left the human form poorly prepared. Humans are maladapted to a life where there is plentiful high-energy-dense food. Without the need to physically seek food, there is no pressing need to expend large amounts of energy. Advances in technology through motorised transport, automation and labour-saving equipment around the home, in the workplace and the shopping environment have further reduced the need for physical work. Cheap and accessible electronic entertainment makes the home an increasingly attractive and comfortable place. As a result, it is much easier to take life easy and more difficult to find the time and motivation for maintaining physical activity and fitness levels. The result is that around 70% of populations in westernised countries are insufficiently active for optimal health and energy balance (US Department of Health and Human Services, 1996).

1.9 Psychological State

Psychological state is a mental condition in which the qualities of a state are relatively constant even though the state itself may be dynamic. It refers to the general behavioural pattern and psychological make-up of a person. It is the total aggregates of human responses that the people make to both internal and external stimuli. Performance in physical activity is concerned with psychomotor abilities and response capabilities of the individual, which is again dependent on innate neuro-motor make-up, physical structure and typical level of activation.

1.10 Statement of the Problem

The study was comparative in nature on the early teen students. Data were taken from relevant tests according to set norms and procedure. The investigation was associated with the study on the level physical fitness and psychological characteristics of early teen students of schools of three different categories. Hence, the study was stated as “A Study on Physical Fitness and Psychological Status of Early Teen Students of Schools of Three Different Categories”.
1.11 Rationale of the Study

The study was based on survey on physical fitness and psychological status of early-teen students of schools of three different categories. As the students used to spend considerable hours in schools on six days in a week, it would have an impact on the physical and psychological characteristics of the students. The study was a hunch to find the impact of school environment on the students. Physical education as a curriculum activity has its role in developing students in various dimensions. Besides, students living in home and residential schools experience different environmental conditions in the bringing-up process. Therefore, the students of schools of three different categories were selected to observe the impact of school environment on them.

1.12 Purpose of the Study

The primary purpose of the study was to compare the early teen students of three different types of schools in the physical fitness and psychological domains. Criteria wise the purposes of the study were:

1. To predict the physical fitness levels of early teen students of schools of three different categories.

2. To predict the psychological status of early teen students of schools of three different categories.

3. To predict the physical fitness levels of early teen students according to age.

4. To predict the psychological status of early teen students according to age.

5. To compare the physical fitness levels of early teen students according to age and school.

6. To compare the psychological characteristics of early teen students according to age and school.

1.13 Significance of the Study

There will be significant in the following aspects and/or directions:

1. The present study may give some more basic knowledge to the researcher to conduct further research in the similar field.
2. This study would act as guidance to the physical educationist, teachers and coaches to understand about the psychological status of teenage students.

3. The study findings could be a reference on the physical fitness trends of the teenage students of different category schools.

4. The study observations may bring new knowledge in the area of growth and development of the school children in relation to nature of school.

5. The study may provide a reference to the stakeholders’ like-parents, guardians, policy makers and education department of the state and country to think from a new perspective.

1.14 Delimitation of the Study

The following delimitations were set for the present study:

1. The study was delimited to the male students from seven Districts of West Bengal.

2. The subjects of the study were further delimited to three different age groups of thirteen year, fourteen year and fifteen year with similar height-weight.

3. The psychological status was also delimited to self concept, adjustment ability, emotional intelligence and achievement motivation.

4. The study was restricted to measure only four HRPF components, viz., body composition (%BF), flexibility, muscular strength and muscular strength endurance, and four SRPF components, viz., speed, agility, power and reaction ability. Other HRPF and SRPF variables were not measured.

5. The students were selected from non residential schools, Jawahar Navadoy Vidyalayas and Ramkrishna Mission Schools of the study area, other residential schools were not considered in this study.

1.15 Limitations of the Study

The following limitations were relevant for the present study:

1. The hereditary and environmental factors, which would influence the criterion variables, were recognized as limitations.

2. The study was conducted on sample drawn from different populace of different places.
3. The motivation level of intrapersonal and interpersonal as well as environmental factors was beyond the control of researcher, in spite of researchers appeal to provide their best effort of the subjects.

4. The subjects for the study were not from the same social, economical and cultural background.

5. Environmental variations such as air temperature, atmospheric pressures, relative humidity etc. during testing periods could not be controlled and these things could influence the result.

6. The tests applied on a subject and all the subjects could not be on the same day and same time in the year.

7. Day-to-day activities, rest period, food habits and life style beyond control of the researcher which could be a limiting factor of the study.

1.16 Definition and Explanation of Important Terms

Achievement Motivation: Achievement motivation is a combination of two personality variables: tendency to approach success and tendency to avoid failure. The achievement motivation plays an important role in predicting one’s future success or failure. It is a social form of motivation involving a competitive desire to meet standards of excellence. It is what gets you going, keeps you going and determines where you are trying to go.

Adjustment: The concept of adjustment was first given by Darwin, who used it as ‘adaptation’ to survive in the physical world. The term adjustment is often used as a synonym for accommodation and adaptation. It is used to emphasize the individual’s struggle to along or survive in his or her social and physical environment. Adjustment is the process by which a living organism maintains a balance between its needs and the circumstances that influence the satisfaction of these needs. In this process, the individual also makes efforts to maintain harmonious relationships with the environment. In adjustment, the two crucial factors are the individual and the environment.

Agility: Agility is the ability to perform a series of explosive power movements in rapid succession in different directions. It is the ability to change the direction of the body in an efficient and effective manner (Verschuren, 2009).

Body Composition: Body composition is mainly the proportion of the three major tissue components i.e., bone, muscle and fat of the human body.
**Body Fat Percentage (%BF):** The BF% of a human or other living being is the total mass of fat divided by total body mass. Body fat includes essential body fat and storage body fat.

**Emotional Intelligence:** Emotional intelligence as the subset of social intelligence that involves the ability to monitor one's own and others' feelings and emotions to discriminate among them and to use this information to guide one's thinking and actions.

**Flexibility:** Flexibility is the ability to achieve an extended range of motion without being impeded by excess tissue, i.e. fat or muscle. It is one’s ability to move joints and muscles through their full range of motion (Fitness, 2005).

**Grip Strength:** Grip strength is the maximum force applied by the hand to pull on or suspend from objects and is a specific part of hand strength. Optimum-sized objects permit the hand to wrap around a cylindrical shape with a diameter from one to three inches.

**Physical Fitness:** Physical fitness is a state of well-being that comprises skill and health-related components.

**Power:** Power is the ability to exert a maximal force in as short time as possible, as in accelerating, jumping and throwing implements.

**Reaction Ability:** Reaction ability is the ability to reach or respond quickly to what individuals hear, see or feel.

**Self-Concept:** Self-concept is an idea of the self constructed from the beliefs one holds about oneself and the responses of others. One's self-concept (also called self-construction, self-identity, or self-perspective) is a collection of beliefs about oneself that includes elements such as academic performance, gender roles and sexuality, and racial identity. Generally, self-concept embodies the answer to “Who am I”?

**Muscular Strength-Endurance:** Strength Endurance is a muscle's ability to perform a maximum muscular of contraction in a given time.

**Speed:** Speed is the ability to move one’s body or parts of the body swiftly.