CHAPTER – II

REVIEW OF RELATED LITERATURE

This chapter contains the observations of the studies of other researchers and the authors of books related to the areas of the study of this research work.

It is evident that not only adults are physically inactive to a high extent. Many children and adolescents have also adopted a sedentary lifestyle. According to the World Health Organisation people should be active to benefit their present and future health (WHO, 1999). This summary by the World Health Organisation may well understate the problem with the increasing amount of sedentary people even among very young children.

Horgan (2005) observed that many children could not achieve the lowest level of recommended daily physical activity of moderate intensity. Blair et al. (1992) observed that there was a discernible feeling that children and adolescents, in particular, were to be less active and fit today than in the past, and there is a public perception of an increasingly sedentary way of life among children. This perception has prompted concerns about the impact of these declining levels of physical activity and fitness on present and future health status of children.

2.1 Physical Fitness

Zainalffikiri et al. (2013) defined physical fitness as body’s ability for efficient function, enjoying the time spent, combating diseases that related to health and coping with emergencies.

Physical fitness considered to be an important issue from the perspective of public health proclaimed by Metter et al. (2002) and Myers et al. (2002) both in children and adults (Ortega et al. 2008).

Physical fitness was described by Singh et al. (2011) as the most important element of health. For overall health, it was suppose to be essential to reduce the risks of diseases and health improvement for individuals revealed by Manmeet et al. (2010).

Whitehead (1993) proclaimed that children who were born intrinsically motivated to be physically active that motivation – if kept then alive by physical success, freedom, and fun which added years to life. It maintained the physical zest to add life to years.

Physical fitness had been deteriorated in adult across all genders, ages and racial/ethnic groups proclaimed by Ichinohe et al. (2004).
2.1.1 Health-Related Physical Fitness

Health related fitness is defined by Dureja et al. (2014) as the ability to do vigorous activities without that can limit the risk for spread of disease and disorders which affect an individual’s capacity. Health-related physical fitness includes five components, namely body composition, flexibility, cardio-respiratory endurance, muscular strength and muscular strength-endurance (Corbin et al., 2000).

Adolescence is an important time period of physical development to a person because of hormonal changes, sexual maturation and linear growth, all potentially affect body composition was narrated by Hills et al. (2010).

Body Fat Percentage

Body fat percent is defined by Heli (2014) as the percentage of total body fat in the total weight, which can objectively and accurately reflect the body fat content and distribution, and it is one of the most important indicators to evaluate the degree of human obesity. Human health needs reasonable body fat percentage, as too much or too little body fat will induce various diseases. Essential body fat is necessary to maintain life and reproductive functions.

It is the proportion of three major tissue components, i.e., bone, muscle and fat of the human body (Brozek, 1963). Two measures in body composition criteria, viz. percentage of body fat (%BF) were considered in the study as the body composition variables. Among the traditional and new skinfold method the skinfold method is more convenient in terms of its cost and use in various settings (Lukaski, 1987).

Moore (2003) revealed the results from a longitudinal study with eight years of activity monitoring and repeated anthropometry measures among children aged 4–11 years showed that higher levels of physical activity during childhood lead to the acquisition of less body fat by the time of early adolescence.

Genetic factors are important for becoming overweight, but also the influence of parents, siblings and other relatives is important for eating and activity behaviour. An influence of socio-economic factors with a predominant effect of the mother’s educational level, rather than financial resources, has been suggested to affect overweight among children observed by Klein-Platat et al. (2003), and also the paternal obesity by Savva et al. (2004).
Girls gain more body fat, while boys gain more muscle mass during puberty because of the drastic hormonal changes that induce important modifications in growth bone mass, and body composition that pointed out by Cintra et al. (2013).

**Flexibility**

Flexibility has been defined in many ways. It is used the term joint mobility indicates the degree of bending the normal range or scope of a joint or series of joints by Moller and Oberg (1984).

The importance of flexibility on muscles is still unclear. Flexibility is important for everyone and helps to perform better in day-to-day life (Dinesh, 2014). The sit-and-reach test is a commonly used field test to measure hamstring and low-back flexibility of a person (Baumgartner & Jackson, 1995).

Bracko et al. (2001) found that increase in flexibility from birth to adolescence. Martin et al. (1998) observed that maintaining a good level of flexibility had to be an important part of health-related fitness.

**Muscular Strength**

Shyamal and Arvinder stated (2010) hand grip strength (HGS) is a measure of strength of several muscles in the hand and the forearm.

Baskaran et al. (2010) found that the power of hand grip is the result of forceful flexion of all finger joints with the maximum voluntary force that the subject is able to exert under normal biokinetic conditions.

The estimation of hand grip strength is of immense importance in determining the efficacy of different treatment strategies of the hand and also in the hand rehabilitation observed by Benefice and Malina (1996).

Foo (2007) found that grip strength determines the handedness of an individual, an important field of population variation study. It is often used as an indicator of overall physical strength. Smith et al. (2006) observed that grip strength has long been thought of as a possible predictor of overall body strength. Direct correlation in grip strength and overall body strength was found in very old and oldest females.

Gerodimos (2012) observed that there were several factors which influence the grip strength. Study findings showed a significant age related increase in absolute and relative handgrip strength irrespective of hand preference.

Gedela et al. (2013) had concluded that hand held dynamometer is simple and reliable instrument to measure hand grip strength. Sella (2001) had concluded that there are significant handgrip strength differences with age groups for both males and females.
Augustine (2014) reported that there was an excellent strong positive correlation when age, body height and body weight were compared with handgrip strength. As the right hand of the subjects was the dominant hand, the subjects showed greater grip strength in that hand than the non-dominant hand, which might be because of difference in muscle strength between two hands.

Burke et al. (1953) reviewed in their study that grip strength increased rapidly up to the age of 20 years and reaches its maximum value about the age of 30 years.

Link (1995) found in their study that grip strength increased linearly across all of the age groups \( p < .001 \). Improvement of grip strength with age was also reported by Backman and Daniels (1996). It has been shown by Sartorio et al. (2002), Nicola et al. (2006) and Prakash et al. (2011) that there was age dependent increase in hand grip strength in boys and girls as well as the inter-gender differences was strongly associated with changes of fat free mass during the childhood.

Mathiowetz et al. (1985) described varying as a function of age; highest grip strength scores occurred between the ages 25 to 39 years age groups.

**Muscular Strength-Endurance**

Muscular strength and endurance are one of the health-related physical fitness components stated by American College of Sports Medicine (2003). Muscular endurance is the ability of a muscle, or muscle group, to generate force repeatedly or for an extended period of time. Many sports and daily-life body movement require certain level of muscular endurance, as described by Docherty (1996).

Kasee and Larry (2004) stated that a minimal amount of abdominal endurance was necessary for maintaining proper alignment of the axial skeleton and supporting movements of both the lower and upper extremities in activities of daily living, work, and athletic performance.

Dutt (2005) reported a general trend of increase in sit-up score, though at varying rates from age 8 to 14 years. After the age of 14 years, a gradual decrease in sit-up score was seen with increase in age.

Gakhar and Malik (1999) pointed out that increase in sit up score with increase in age in Jat school children of Delhi. Singh (2010) reported a slow but continues inclination trend of sit-up score in respect of age in Meitei community boys of Manipur.

Abdominal muscular endurance is especially important to maintain healthy body.

Eiben et al. (2005) also found that after early childhood performance in muscular endurance increased gradually with age. Continues increasing trend of strength
endurance with growing age was also reported for the school boys of Kerala in a survey study conducted by Kerala State Sports Council (2009).

2.1.2 Skill-Related Physical Fitness

Skill related physical fitness is associated with performance of motor skills and depends on the components that include: balance, speed, agility, coordination, reaction time and power stated by Corbin et al. (2000).

Speed

The Speed defined by Rao (2011) from a scientific standpoint is simply distance/divided by time, but this is a rather simplistic view of speed. A more accurate definition of speed is this: speed is the ability of an athlete to move as fast as possible, through the optimal range of motion, in a deliberate and intentional manner, in a particular direction.

Johnson and Nelson (1985) defined speed as the rate at which a person can propel his/her body, or parts of his/her body through space. Speed and velocity is very important and need to be included in sports. If people can control their speed, they will not have really large amount in energy (Brigitta et al., Retrieve from World Wide Web, 22/06/2016).

The speed of running in general exhibit a general trend of increase with age as well as with the course of running observed by Kumar, (2006).

Agility

At present, there is no consensus among the sports science community for a clear definition of agility. Agility has classically been defined as simply the ability to change direction rapidly by Bloomfield, et al. (1994); Clarke (1959); Mathews (1973), but also the ability to change direction rapidly and accurately by Barrow and McGee (1971); Johnson and Nelson (1969). In more recent publications, some authors have defined agility to include whole-body change of direction as well as rapid movement and direction change of limbs by Baechle (1994), Draper and Lancaster (1985).

Recently, however, agility has been redefined by Sheppard and Young (2006) as a rapid whole-body movement with a change of velocity or direction in response to a stimulus.

Praagh (2002) proclaimed sprint ability and agility are more based on genetic factors, although there is always a training potential to be considered.

Clarke (1971) opined from a study of shuttle run that the performance increased in a straight line rise from ages 8 to 14 years.
Harre (1979), Ludwig and Hirtz (1981) and Demeter (1981) have also reported that agility improves rapidly before puberty, after which the improvement slows down.

**Power**

Standing broad jump (SBJ) is a multi-joint movement that is commonly used to assess explosive leg power by Moresi et al. (2011). Burr et al. (2008) observed SBJ is routinely used by coaches of several sports for talent selection and prediction of potential.

Explosive power or jumping ability, sprint speed and agility improve to a great extend during adolescence, with the highest rate of increase at the age of 14 and 16 Years proclaimed by Malina, (2004).

Loko et al. (2000) reported that although SBJ performance increased linearly between the ages 10 - 12 and remained stable from the age of 13 until the age of 17 Years.

Temfemo et al. (2009) assessed jumping ability, leg power and anthropometric characteristics in 11-16-year old children and found that jumping performance increased during growth, with gender differences manifesting after the age of 12 Years and increasing more after the age of 14 Years, probably due to the onset of puberty in both genders that resulted in a much greater increase in leg length and leg muscle volume in boys compared with girls.

Greater leg muscle volume may be caused by the increased testosterone secretion in boys around 14 years old observed by Sheffield-Moore (2000), which leads to an increase in fat-free mass, as well as by the greater involvement of boys in strenuous physical activities that increase muscle power by Ozsaker, (2011) and Malina (2004).

Winter (1976) has specifically mentioned that rapid increase in strength is largely limited to maximum strength and explosive strength. Some other factors like social and economic factors proclaimed by Snyder (1970), intensity of habitual physical activity, participation in extramural and physical education program might be the underlying reason which affected strength performances of lower extremities.

Mastery of the standing broad jump is usually not observed before age 6 Years and sometimes even in adolescence and adulthood suggested by Gabbard (2000).

**Reaction Ability**

Human Reaction time is the amount of time it takes for a person to respond to a stimuli, or to perform simple reflexive functions. It is the measure of sensory-motor association observed by Misra and Mahajan (1985).
Bamne et al. (2011) issued factors affecting reaction time are – arousal, age, gender, left v/s right hand, practice, fatigue, fasting, distraction, personality type, punishment, stress, exercise and intelligence of the subject.

Morehouse and Miller (1976) and Spirduso (1975) studied that reaction time is affected by various factors such as age, gender, number of simultaneous stimuli, nutrition, physical activity, training and physical fitness and fatigue.

Luria (1932) was of the opinion that the young child might be expected to show a very short reaction time.

Reaction time may differ from individual to individual and also in the same individual from day to day, even from event to event commented by Hull (1942). He further opined that, this behavioural oscillation is an overall characteristic of the organism, not to be explained by any single factor.

Pierson and Montoye (1958) studied 400 male subjects and concluded that reaction time (RT) is significantly related to chronological age.

### 2.2 Psychological Characteristics

#### 2.2.1 Self-concept

The ‘self’ includes all that a person embraces in the works I, Me, Mine and Myself. What a person thinks and how he behaves is largely determined by the concept he holds about himself and his abilities explained by Combs and Snyder (1959). Murphy (1947) described Self concept as the individual how known by her/himself. Raimy (1943) opined it is the map which a person consults at the time of crisis or choice. Solomon (2006) has defined as individual’s beliefs about one’s qualities and how those are judged by the person. A positive self-concept is an important part of a one’s happiness and success. Individuals with a positive self-concept have self-confidence and set goals they can achieve. Achieving their goals reinforces their positive self-concept. A man with a positive self-concept is more likely to change unhealthy habits to promote health than the individual with a negative self-concept. A healthy self-concept is necessary for overall physical and mental wellness. Different forms of physical activities play important role in the development of self-concept.

Development of self-concept begins is a topic of controversy. Tiedemann (2000) asserted that gender stereotypes and expectations set by parents for their children impact children's understanding of themselves by approximately the age of 3 Years.
In other view, Leffot et al. (2010) stated that self-concept develops later, around the age of 7 Years or 8 Years, when children are developmentally prepared to interpret their own feelings and abilities, as well as feedback they receive from parents, teachers, and peers.

Chand and Nautiyal (1994) found that there was no significant different in the self-concept of students living in destitute and parent homes.

Byrne (1984) found that nearly all studies report that self-concept is positively correlated with achievement and many find achievement to be more strongly correlated with academic self-concept than with general self-concept.

Bell and Ward observed (1980) that an increasing amount of evidence supports the theory that there is a correlation between self-concept and achievement in school. Successful students feel higher sense of personal worth and somewhat feel better about themselves. In general, the higher are the grade averages, the more likely the student is to have a high level of self-acceptance.

Strathe and Hash (1979) a significant relationship among academic achievement, school satisfaction, and self-esteem has been reported for students at all grade levels from primary grades through college.

Karim (1990) conducted a study on “Self concept: A cross cultural study on adolescents”. The sample consisted of 600 adolescents with age range of 13-19 years. The results revealed that sex variation had a significant impact on personality perceived and socially perceived self. The females possessed more positive self concept in comparison to the males.

There are various factors that affect the various levels of self-concept in adolescents such as gender, ethnicity, social class etc. (Act for youth, 2003). Moreover, it is of decisive importance to focus upon multiple variables which include gender, caste, low levels of father’s education, father’s occupation etc. which may contribute to self-concept, academic achievement and achievement motivation. Although social class is the strongest predictor of educational achievement, it intersects in complex ways with other factors, notably gender and ethnicity. Age and gender had differential associations with various self-concept dimensions (Marjoribanks & Mboya, 2001).

Doyle and Purkey (1970) have documented a significant relationship among variables such as academic achievement, school satisfaction, and self-concept. It has also been noted that this relationship has been reported for children all grade levels, from the
primary grade levels through college (McCandless & Evans, 1973; Adeniran, 1985; Salawn, 1991).

2.2.2 Adjustment Ability

Shafer (1961) emphasized that 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.

Berkowitz, et al. (2008) stated that adjustment is a process of altering behaviour to reach a harmonious relationship with the environment. It is a process of change and search by an individual for some level of balance or acceptance with the environment, others, or oneself.

Vawda (2002) reported in his findings that 69.56 per cent of adolescents had suicidal behaviour due to parent-child problems, about 17.39 per cent due to partner relational problems, 8.69 per cent due to adjustment disorders and 4.35 per cent of children due to depression.

Roy and Mitra (2012) found that social adjustment differs in sexes. Whereas in another study, Velmurugan and Balakrishnan (2011) investigated self-concept of higher secondary students in relation to social adjustment and observed that the level of social adjustment among the higher secondary school student was high.


A review of the studies carried out in the field of adjustment as reported in the three surveys of educational research edited by Buch (1991) reveals that no systematic attempt has yet been made to develop a tool for the assessment of adjustment problems of school students.

Agarwal (2003), the investigator conducted a comparative study of adolescents’ level of adjustment in relation to the academic success and failure. It was found that successful adolescents were significantly superior in their social emotions and educational adjustment in comparison to unsuccessful adolescents.
Sharma and Gakkar (1991) and Pradhan (1992) observed that the students from English medium school tend to exhibit better emotional adjustment while their counterparts from rural schools display relatively better educational adjustment as they do experience stress from their teachers and parents regarding their academic performance.

It was reported by Kasinath (1990) and Pradhan (1993) that boys are significantly better adjusted than girls. The analysis of the individual items of the emotional adjustment dimensions indicated that boys as compared to girls have not expressed any fear to go out alone in night.

**2.2.3 Emotional Intelligence**

Salovey and Mayer (1990) defined emotional intelligence (EI) is 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 own thinking and action.

Mayer and Salovey (1997), Salovey and Mayer (1990) described the original definition of EI conceptualized it as a set of interrelated abilities. Zizi (2003) described 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.

Emotional intelligence can be defined as the ability to monitor one's own and other people's emotions, to discriminate between different emotions and label them appropriately and to use emotional information to guide thinking and behavior by Coleman (2008).

The importance of emotional intelligence is firstly highlighted by Thorndike (1920) as a predictor of leadership ability through increasing focus on studying the ability to understand and manage men and women and to act wisely in human relations by Vijoy (2012). Furthermore, Van Rooy et al. (2004) believed emotional Intelligence is a capacity to proper evaluation considers emotions that trigger the correct response in a difficult position.

Goleman (1998) stated that emotional intelligence play a major role in improving performance at work as well as achievements in personal life.

Bar-On (1999) was of the opinion that emotional intelligence can play a considerably more important role than general intelligence in helping the individual achieve success in various educational, occupational, social, and athletic domains. According to Goleman
(1995), emotional intelligence is a comprehensive schema of the individual’s ability to achieve success.

Numerous studies have also showed that higher levels of emotional intelligence were associated with a better subjective well-being and with greater life satisfaction and positive affect by Austin, et al. (2005), Gallagher and Vella-Brodrick (2008), Schutte, et al. (2002) and Schutte et al. (2011).

Maltesta et al. (1982) demonstrated that infants have the capacity to display expressions early in life and that infants’ birth status and maternal care characteristics influence this capacity. Infants who have higher rates of expressivity are more proficient at communicating their feelings and understanding emotional displays of others. Regarding the present emotional state of adolescents, Goleman (1995) cited that “there is a world-wide trend for the present generation to be more troubled emotionally than the last; more lonely and depressed; more angry and unruly; more impulsive and angry and more nervous and prone to worry.” In some tribes, the parents prepare their children for arranging the basic physiological needs only. Their culture do not addresses the emotional needs to be developed. This was supported by Maslow (1976) as he stated that when physiological needs are not met, psychological needs take a backseat. Thus in tribal culture, less stress is given on emotional skills enrichment and hence resulting in poor level of emotional intelligence among tribal adolescents. Trivedi and Shakya (2014) observed that Emotional Intelligence is the basis of all success in human life.

In a study conducted by Rode et al. (2007) it was predicted that emotional intelligence was related to academic performance for two reasons. First, academic performance involves a great deal of ambiguity by Astin (1993) which has been shown to cause felt stress by Jex (1998). Students are required to manage numerous assignments, adapt to the differing teaching styles and expectations of instructors, work independently toward objectives, and manage conflicting academic and non-academic schedules. In addition, some aspects of academic work may be considered highly stressful, such as taking exams. Second, the majority of academic work is self-directed, requiring high levels of self management. Understanding the causes and effects of various emotions is an important element of emotional intelligence.

Mayer and Salovey (1997) observed that individuals with a high level of emotional intelligence are able to direct positive emotions to uphold the energy needed for high performance over long periods of time and to redirect negative emotions into
productive behaviors. Thus individuals with high emotional intelligence would perform better academically.

Many researchers such as Mayer et al. (1999) showed that the emotional intelligence has a negative relationship with anger and behavioral disorder, depression, stress and negative relationships.

Gohm (2005) stated that people who use their emotional intelligence are more compatible with the environment, have more self-confidence and know their abilities better.

Taghizadeh (2012) observed apparently, lower emotional intelligence poses social skill problems for a typical person. A person's share of emotional intelligence sets a proper standard to evaluate his behavior since it plays a significant role in human beings' success.

Andrew (2009) stated that higher emotional intelligence leads to more successful adaptation of people to environment and environmental stimuli. The adaptation, in turn, brings about an athlete's success in sports team.

Goleman (1995) indicates that when high levels of leadership are required, emotional intelligence is a much greater predictor of success than traditional measures of intelligence.

Shapiro (2000) stated that emotional intelligence starts to develop at birth. The first emotional attachment of the child appears when the mother provides for his/her needs. The quality of increasing interaction of the child with others in his/her intimate environment, such as parents, siblings, friends and teachers, may develop or weaken his/her emotional intelligence.

Smith and Walden (1999), in a study about preschool children, determined that children subjected to negative attitudes show more negative emotions and their understanding of emotions and coping strategies are weak. Children’s effective use of emotions enables them to control their instinctive reactions in stressful conditions, to learn to better communicate their emotional state, to develop healthy relationships with family and friends, and to become successful in school, work and life.

2.2.4 Achievement Motivation

The original definition of achievement motivation was from Atkinson (1964), who defined it as the comparison of performances with others and against certain
standard activities. Colman (2001) had redefined achievement motivation as a social form of motivation involving a competitive desire to meet standards of excellence.

Atkinson and Feather (1966) suggested that achievement motivation is a combination of two personality variables: tendency to approach success and tendency to avoid failure.

According to Slavin (2006), achievement motivation is regarded what gets one going, keeps one going and determines where one is to go.

Motivation is generally regarded as the drive to achieve targets and the process to maintain the drive. Motivation provides an important foundation to complete cognitive behavior, such as planning, organization, decision-making, learning, and assessments proclaimed by Pintrich and Schunk, (1996).

Early theorists suggested that achievement motivation is caused by instincts, traits, needs, or drives observed by Schunk, et al. (2008) and Weiner, (2013).

Martin and Liem (2010) stated that the achievement motivation plays an important role in predicting students’ future success or failure.

Positive relation between achievement motivation and school performance was found by Meijer and Wittenboer (2004). It has been a major finding from the earliest models of achievement motivation and behaviour that when people expect to do well, they tend to try hard, persist, and perform better observed by Pintrich and Schunk, (2002).

McGregor (1999), Lento and Elliot (1997), Elliot and Sheldon (1997), Harackiewicz (1996), Thompson (1995) studied that achievement motivation is one of the most important motives which direct one’s behavior to achieve success and superiority. Many researches showed that if one has a high achievement motivation he/she will learn or respond and his/her creation will be quicker than one who has a low achievement motivation.

Richardson (1994) examined the linkages between four aspects of 4th grade teachers’ achievement motivations and the achievement of 4th grade students. Results showed that those schools with higher levels of teacher achievement motivation also showed higher achievement test scores.

Positive relation between achievement motivation and school performance was revealed by Meijer and Wittenboer (2004).