Chapter I

INTRODUCTION

1.1 Background

Evolution of Physical Activity

Physical activity and physical fitness has been linked with longevity since ancient times. It has been an area of interest of several researchers as physical activity is influenced by varied factors in coexistence. To understand the relationship between physical activity and health, understanding the four evolutionary periods is very important (Blair 1988). The pre-agricultural period up until about 10,000 years ago was characterized by hunting and gathering activities. Exercise levels were high and diet was low in fat. The agricultural period from 10,000 years ago until about the beginning of the nineteenth century was characterized again by reasonably high physical activity levels and relatively low fat diets, although the fat content increased during this time. The industrial period 1800-1945 saw the development of the industrialized society with the accompanying problems of overcrowding, poor diet, poor public health measures and inadequate medical facilities and care. This trend became reversed in the nuclear/technological period. Improvements in health measures and advances led to lessening of infectious diseases and on the other hand increasing of lifestyle disorders. It is this period that led to increased interest in the knowledge about physical activity (Biddle, & Mutrie 2008) (Figure 1.1)

![Fig 1.1 Sedentary Lifestyle & Implications](Adopted from Canterbury District Health Board, 2010. www.heal.org.nz)
Physical Activity Guidelines

A growing number of international organizations have produced position statements and policy documents on health related behaviors including physical activity. In 2004 World Health Organization endorsed a global strategy on diet, physical activity and health indicating that inactivity is not just a problem for developed countries. Global strategy suggests that appropriate regular physical activity is important in prevention of lifestyle diseases. They recommend 30 minutes moderate intensity physical activity daily and suggest that increased physical activity can lead to curtail the cost on health. A number of position statements have emerged addressing the issues of physical activity, exercise and physical fitness. American College of Sports Medicine (1990) recommend minimum 3 to 5 days of exercise of moderate to high intensity for 20 to 60 minutes of aerobic activity through large muscle group activities that are continuous and rhythmic. (Figure1.2). Centre for Disease Control and Prevention and ACSM further recommended that adults should accumulate 30 minutes or more on most or all days of week (Pate et al. 1995). This has been adopted by other countries too. ACSM in 1988 made eight specific recommendations about physical activity and health for children and youth, including the development of appropriate school physical education programs that emphasize lifetime exercise habits, enhanced knowledge about exercise, and behavior change; the encouragement of a greater role in the development of children’s activity levels from parents, community organizations and health care professionals; the adoption of a scientifically sound approach to fitness testing in schools whereby the emphasis is placed on health related aspects assessed in relation to acceptable criteria rather than normative comparison; and finally award schemes for fitness should encourage individual exercise behavior and achievement rather than superior athletic ability. Similar statements on children issued by Sports Council UK and Health Education Authority (1992) recommended that more research was required on the development of effective strategies for promoting exercise habits in children.
Physical Activity during Early Adolescence

Early adolescence is a unique and fascinating period in human development. This period of great transition marks the end of childhood and the introduction into young adulthood. As children make the transformation into adults many developmental changes will occur. For instance, young teens experience a time of accelerated growth second only to infancy (CCAD - 1995). Importance of roles of family members subside (Schickedanz et al. 1998) while the peers take the charge leading to change in thinking patterns (Adams and Gullotta 1989), mental makeup. Social support, influence from the peers in this phase, serve as a basis for establishment of some lifelong behavior patterns or habits carried through the adulthood. One such behavior pattern or habit is maintaining a physically active lifestyle.
Studies have shown that individuals who are physically active during adolescence continue to be physically active adults and exhibit a healthy and active lifestyle. (Dishman, 1988; Kuh & Cooper, 1992). Adolescents who had more experience with physical activity and sports prior to age fifteen had a higher psychological readiness for physical activity at thirty years of age. (Hale, 2003). Recent research establishes relationship of physical activity and health and fitness benefits. (Biddle 2008). The onset of physical inactivity and increased sedentary lifestyle during adolescence continue into the adulthood, posing a major challenge to the Physical Educationists & health professionals.

Research on children’s participation by Mulvihill, Rivers, & Aggleton (2000) has shown that children aged 5-11 years are often physically active and are enthusiastic about activity. They are motivated by enjoyment, and social elements of participation, while those aged 11-15 years, enjoyment was important, itself enhanced when an element of choice was evident and feelings of well-being.

Concern has been expressed about levels of physical activity of young people even though they are the most active group. Interest is high for reasons of increasing obesity and the belief that if children are not active enough then serious health problems will accrue in later life. (Figure 1.3) Reviews of physical activity participation studies conducted across the world have concluded that at least fifty percent children and adolescent are insufficiently active for health with girls less active than boys. These findings, as well as a steep decline across the adolescent period, are robust and appear to hold across the world despite measurement and methodological differences (Biddle, & Mutrie 2008).
Fig 1.3 Cycle of Obesity
(Adopted from Book Bing Org, 2006. www.bookbing.org)

Barriers to Physical Activity

Inactivity is one of the ten leading global causes of death and disability (WHO 2003). Physical activity in children results in increased self esteem and perceived physical competence which enables children to cope with mental stress. Regular physical activity improves children’s mental health and their academic performance (Demarco, & Sidney, 1990). (Figure 1.4)
Despite the common knowledge that exercise or physical activity is helpful, many people are not regularly active. Coakley and White (1992) in their studies interviewed children who had decided to participate in different sports and decided not to participate at all. The decision to participate or not appeared to be influenced by perceptions of competence, by external constraints, such as money and opposite sex friends, degree of support from significant others and past experiences, including school PE. Negative memories of school PE included feeling of boredom and incompetence, lack of choice and negative evaluation from peers. Feelings of embarrassment in sport settings, mainly due to perceived incompetence or concerns over self presentation associated with their physique, have been reported in several studies. Brook’s (1996) study addressed the sedentary population and their reasons for leading an inactive lifestyle; he found that competing priorities, lack of exposure, lack of incentives, and lack of motivation, boredom and psychological barriers were some important barriers.

Both academic and popular media have often reported that children today are less active than in previous generations. There are insufficient data at all levels to debate upon this assumption; although personal transport patterns are changing and energy expenditure appears to have declined in children (Durnin, 1992) For example, male teenagers now cycle half the distance they did twenty years ago, while twenty percent of motorized traffic after school hours is involved in transporting children to school. This
reflects a dramatic and general decline in children’s walking and cycling (DiGiussppi, Roberts and Li 1997). On the other hand time-use trend data suggests that organized sport participation has increased in young people (Sturm 2005). A large pan European survey has found that patterns of involvement in physical activity were similar across countries and that about 65 per cent boys and 47 per cent girls participate in vigorous exercise two or more times per week. A shift has also occurred from free discretionary time to more time spent in structured environments such as school and day care. Surveillance of physical activity patterns shows that levels of activity are highest for males, for the young, and for those with higher educational/socioeconomic status.  

In an attempt to combat the decline in physical activity during adolescence, health professionals are calling upon physical educators to equip students with the skills and knowledge to maintain a physically active lifestyle (Krouscas, 1999).

**Role of School Physical Education in Attitude Development**

The role of school is to promote physically active lifestyle. Physical education represents an area of middle school curriculum that has the potential to impact adolescence developing knowledge, attitudes, beliefs and behaviors in positive and meaningful ways that may endure across the lifespan (Mohr, Townsend, & Scoff. 2006). They contend that a physical education teacher and physical education curriculum are the main factors in promoting physical activity through physical education lessons. The USDHHS(1996) says “schools have more influence on the lives of young people than any other social institution except family and provide a setting in which friendship network develops, socialization occurs, and norms that govern behavior are developed and reinforced.”

Teachers have a powerful impact on their students’ attitudes on engagement in physical activity. This impact includes teachers’ behavior, their understanding and knowledge of the skill and their role in promoting an active lifestyle as well as their concern for the needs of their students (Cale, 2000). The amount and quality of teacher interactions has been consistently found to correlate significantly with students’ attitudes toward physical education (Aicinena, 1991). Teachers’ interaction with student would seem to be the most important factor the teacher may contribute to students attitude formation and modification, Interaction in terms of interaction, reinforcement, feedback and attention. Students attitude are influenced by classroom factors like physical
environment, the behavior of fellow students, evaluation, practice partners, the pace of instruction and the difficulty of the activities being learnt.

Ignoring students or offering unequal amounts of personal interaction may lead to negative attitudes toward physical education. Davidson (1982) in his study on a sample of high school girls noted that teachers tended to give more attention to better skilled students at the expenses of the less skilled. The students indicated that they disliked team games as a result of this unequal treatment.

Research on students attitudes have found several factors such as large class size resulting crowding, comparison with others and being graded low because of lack of skill, being publicly embarrassed, participation in elimination games, repetition and shallowness in instruction have also been shown to have negative influence on students’ attitudes. To deal with this, researchers suggested to broaden the range of physical activities to include non-competitive activities such as aerobics and dance to encourage participation.

The study of attitudes in physical education is a growing area of research. Students’ attitude is an important dimension for teachers and researchers to examine, as attitude mediates students’ engagement and provide the foundation for student achievement. In addition to the achievement, a primary goal of physical education is to develop positive attitude in students that promote lifelong physical activity. The present scenario in physical education at schools necessitates a thorough intervention with respect to the physical education teacher’s development, the curricula, teacher’s intra and interpersonal skills, ability to cope with growing demands of profession. The physical education teacher plays a vital role in the education process hence he must possess certain competencies and a congenial mental makeup. It is the teacher’s attitudes toward his profession that plays a key role in the development of students’ attitudes. Hence it demands a scientific inquiry in the area of psychological attributes like attitudes and the teaching and learning process.

Physical activity is a behavior and physical education is a curricular area that teaches about physical activity. An examination of means for promoting lifelong physical activity through school settings revealed that there are no definitive guidelines for how to accomplish this goal. Sallis (1994) suggested some guidelines for promoting physical activity through the school settings.
The program should focus on teaching activity and behavioral skills that promote generalization and maintenance of physical activity during youth and that enhance the probability of carryover to adulthood.

Curricula should be appropriate to the developmental stage and cultural aspects of the students.

Teachers and student teachers need education and support in the use of physical education curricula that promote lifetime physical activity.

Physical environment (open spaces, trails, stairs, sports facilities) and policy must be considered for more successful physical activity promotion in schools and colleges.

Physical education teachers have been identified as the second most popular figures on campus and have been surpassed by only students’ current classroom teachers. Physical education teachers have a tremendous opportunity to help students change health related behaviors. They should provide students with stimulating and relevant information relative to health and fitness and should assess the stages of change in their students and teach appropriate behavioral strategies for initiation and/or maintenance of physical activity. In addition, teachers should assist students in identifying and overcoming barriers to wide variety of physical activity within and outside physical education classes.

Research has been limited in the area of promoting physical activity behavioral changes through physical education and only recently the stages of change model and the use of behavioral strategies have been introduced to the interventions to promote active lifestyles through high school and college physical education (Figure 1.5). The mandatory practice of formal sports does not work with those who are not skilled in such modalities. Therefore physical educators must be open to suggestions from students and society at large. In order to be effective in promoting physical activity among students at school, physical education needs to evaluate its curriculum and professional preparation in conjunction with theoretical models and strategies proven to work in different settings.
The researcher contends that attitudes toward physical activity and lifetime participation in physical activity are based on the related experiences and interactions. Attitude formation and change in attitude depend prominently upon school-based learning opportunities. An investigation into how attitudes differ in age and gender and how teachers and their experience play an important role in attitude development is warranted.

**Theoretical Background**

**Attitudes**

Attitude has been defined as ‘a psychological tendency that is expressed by evaluating a particular entity with some degree of favor or disfavor’ (Eagly & Chaiken 1993), suggesting that the affective element of attitude is key. The term ‘attitude’ is used extensively but offers different connotations. Overuse of the term has rendered it prone to misinterpretation. Allport (1935) defines ‘attitude connotes a neuropsychic state of readiness for mental and physical activity. Thurston defined attitude as ‘the intensity of
positive or negative affect for or against a psychological object.’ It has also been defined as ‘a consistency among responses to a specified set of stimuli, or social objects’, ‘an enduring system of positive or negative evaluations, emotional feelings, and pro or con action tendencies with respect to a social object’, and as ‘an acquired behavioral dispositions’. This research holds attitudes to be a latent, non-observable, complex but relatively stable behavioral disposition reflecting both direction and intensity of feeling toward a particular object, whether it is concrete or abstract.

**Attitudes toward Physical Activity and Physical Fitness**

Students’ attitudes toward physical education have been the focus of attention for a considerable period of time. Attitude studies have been reported in the literature as far as 1933. Also attitudes toward physical activity have been studied for a considerable period of time. Mostly these investigations have focused on examination of attitudes toward physical education (Adams, 1963; Richardson, 1960; and Wear 1950), intensive competition and sportsmanship (McAfee, 1955), and conditioning (Anderson, 1966).

Kenyon (1968) developed a scale to assess motives for engaging in physical activity and measure various dimensions of an individual’s attitude toward physical activity; this was based on Likert scale method. The scale includes 59 items for men and 54 items for women on six sub-scales for six independent dimensions of physical activity, viz. social experience, health and fitness, vertigo, aesthetics, catharsis, and ascetics.

Based on Kenyon’s conceptual model, the researcher has developed a scale ‘Students’ Attitudes toward Physical Activity & Physical Fitness’ (SAPAPF), employing Likert scale to measure six dimensions of students’ attitudes toward physical activity and physical fitness.

Teacher’s attitude reflects an individual’s positive or negative, favorable or unfavorable feelings regarding the attitude object (Oppenheim, 1992; Ajzen, 1993; Eagly & Chaiken, 1993). Attitudes are formed through beliefs. When a group of beliefs cluster around a situation or object, an attitude forms that is prone to action (Kulinna & Silverman, 2000). This research adopted the construct defined by Kulinna & Silverman (1999) in measuring the teacher’s attitude. The scale to measure the teachers’ attitude towards teaching physical activity and physical fitness consisted of four domains, namely,
motor skill development, social development, physical activity and physical fitness, and self-actualization.

Teachers’ attitudes are extremely important because of the relationship between attitude and action. Teacher attitudes are often translated into specific classroom and instructional practices which in turn affect student behavioral and learning outcomes (Cook, 2002). Researchers demonstrate that the attitudes teachers hold influences their perceptions of education, instructional behaviors, and student learning outcomes. Therefore, a better understanding of how teacher’s attitude impacts on students’ attitudes can provide valuable information to the beneficiaries and in the promotion of physical activity.

1.2 Statement of the problem

The purpose of the researcher was to investigate attitudes toward physical activity and physical fitness of sixth and ninth grade school students and attitude towards teaching physical activity and physical fitness of pre-service and in-service physical education teachers’ from English medium schools from Pune City. It is, therefore, the researcher embarked to study the research entitled;

“Teachers’ and Students’ Attitudes toward Physical Activity and Physical Fitness”

1.3 Objectives

1. To develop a scale for assessing the attitudes of students toward physical activity and physical fitness.

2. To develop a scale for assessing the attitude of teachers toward teaching physical activity and physical fitness.

3. To examine the differences in the attitudes toward physical activity and physical fitness of various groups of students.

4. To examine the differences in the attitude towards teaching physical activity and physical fitness of various groups of physical education teachers.
5. To compare in-service physical education teachers’ attitudes toward teaching physical activity and physical fitness based on length of teaching experience in years.

6. To study the relationship between teachers’ and students’ attitudes toward physical activity and physical fitness.

1.4 Rationale of the Study

The results of the present study could be of utility to a number of staff at primary and secondary schools such as classroom teachers, administrators, physical educators & teacher educators and students as the study will provide information pertaining to the following questions:

Do the scales developed measure the attitudes of students and teachers?

Is there an association between gender and attitudes toward physical activity and physical fitness?

Is there an association between grade placement and attitudes toward physical activity and physical fitness?

Is there an association between sports participation and attitudes toward physical activity and physical fitness?

Is there a difference in attitude of in-service and pre-service teachers towards teaching physical activity and physical fitness based on gender?

Is there a difference in attitude of in-service teachers towards teaching physical activity and physical fitness based on length of experience?

Does the teachers’ attitudes towards teaching influence students attitudes toward physical activity and physical fitness?

The outcome of this research will be two Attitude Measurement Scales which can be used further for the development of physical education and sports. Regular measurement of attitudes of students will be helpful in devising an age appropriate program of physical activity and sports. Given to know the gender based and grade based differences it will be possible for the teachers and administrators to provide essential
facilities and suitable modules. This study will be a catalyst in bringing on a lifetime physical activity program. Understanding of the teachers’ influence on students’, the physical educators may get guidelines in enhancing the physical education teacher education programs at university level.

1.5 Hypothesis

H1 There is significant difference in the attitudes toward physical activity and physical fitness of the various groups of students.

H2 There is significant difference in the attitude towards teaching physical activity and physical fitness of the various groups of physical education teachers.

H3 There is significant difference in the attitude towards teaching physical activity and physical fitness of the in-service physical education teachers according to length of teaching experience in years.

H4 There is significant relationship in the teachers’ attitude towards teaching physical activity and physical fitness and students’ attitudes toward physical activity and physical fitness.

1.6 Delimitations

- The research is delimited to the attitude of teachers towards teaching physical activity and physical fitness and students’ attitudes toward physical activity and physical fitness only.

- The study is confined to students of grade VI & IX and physical education teachers (in-service) of selected Maharashtra state board of secondary and higher secondary education English medium schools from Pune city only.

- As the study is designed to investigate the differences in students’ attitudes toward physical activity and physical fitness between students at the beginning and middle of adolescence, only grade VI and grade IX students were selected.

- For the present research, the student-teachers studying their B. Ed. (Physical Education) in C. Agashe College of Physical Education affiliated to Pune University are considered as the pre-service physical education teachers.
1.7 Limitations

- Since the researcher intended to assess attitudes of students and teachers, he resorted to self-reporting attitude scale. Although the reliability of the instrument was assessed and the behavioral manifestation observed, researcher considers it as a limitation.

- The sample was selected using non-probability sampling technique; hence the findings cannot be generalized but will be limited to selected population.

- Although subjects were encouraged to respond honestly and genuinely, response sincerity might have varied to some extent.

- As the subjects participating in the study belonged to various schools of Pune city, factors such as socioeconomic status, lifestyle, educational background of parents, Physical Education programs in schools, was not under control.

1.8 Definitions of terms used

Following terms pertinent to this study are defined for the clarification of the succeeding discussion.

- **Attitude**: Attitude is a latent, non-observable, complex but relatively stable behavioral disposition reflecting both direction and intensity of feeling toward a particular object, whether it is concrete or abstract (Kenyon, 1968).

- **Students’ Attitudes toward physical activity and physical fitness**: Attitude is a general evaluative summary of the information derived from affect, behavior and cognition of physical activity and physical fitness. In this research, Kenyon’s model (1968) of attitudes measurement is adopted and the dimensions studied are as follows:

  1. Social Experience – whose primary purpose for participation in physical activity is to provide a medium for social intercourse.
  2. Health and Fitness – to improve one’s health and fitness.
  3. Pursuit of Vertigo – to find an element of thrill or exposure to danger.
  4. Aesthetic Experience – to find beauty and certain artistic qualities in the activity.
5. Catharsis – to find a release of tension precipitated by frustration.

6. Ascetic Experience – to find satisfaction from long strenuous and painful learning and stiff competition.

In this research, the attitudes of the children mean the score obtained on each dimension in the attitude scale developed in this research. Score for each dimension ranged from 8 to 40. The attitude scale was termed as Students’ Attitudes toward Physical Activity & Physical Fitness (SAPAPF).

- **Teachers’ Attitude towards teaching physical activity and physical fitness:** Attitude as a concept deals with personal way of teacher’s thinking, acting, and behaving to achieve the curricular outcome goals of Physical Education. The scale to measure the teachers’ attitude towards teaching physical activity and physical fitness consisted of four domains, namely, motor skill development, social development, physical activity and physical fitness, and self-actualization as suggested by Kulina & Silverman (1999). In this research, the attitude of teacher’s towards teaching physical activity and physical fitness meant the total score obtained on the scale. The scores ranged from 20 to 100. The scale was termed as Teachers’ Attitude towards Teaching Physical Activity and Physical Fitness (TATPAPF).

- **In-service Physical Education teacher:** The Physical Education teachers working in English medium schools from Pune city and affiliated to Maharashtra state board of secondary and higher secondary education

- **Pre-service Physical Education teacher:** Student teachers pursuing the Teacher Education course in Physical Education from C. Agashe College of Physical Education in Pune city and affiliated to University of Pune.

- **Sports Participation:** Participation in competitive sports at minimum interschool or club level in preceding two years is termed as sports participation. In this study, the students of grade VI and IX who have participated in such sports were termed as sports participants and the rest were non-participants.

- **Groups of students:** It is the classification of students based on gender, grade and sports participation status. Eight groups formed for the purpose of analyzing the differences were namely; Grade VI boys sports participants, Grade VI boys...
non-participants, Grade VI girls sports participants, Grade VI girls non-participants, Grade IX boys sports participants, Grade IX boys non-participants, Grade IX girls sports participants, Grade IX girls non-participants.

- **Groups of Physical Education Teachers:** It is the classification of physical education teachers based on gender, stage of service. Four groups formed for the purpose of study were namely; Male pre-service teachers, Female pre-service teachers, Male in-service teachers and Female in-service teachers.

- **Length of teaching experience:** It is the period of service rendered as an appointed Physical education teacher or assistant physical education teacher. In this study, the in-service teachers were classified in three groups which were In-service teachers with experience $\leq$ 5 years, In-service teachers with 6 to 10 years experience, In-service teachers with experience $\geq$ 11 years.
Reference


