REVIEW OF RELATED LITERATURE

The study of Health related physical fitness and Anthropometric measurements highlighted facts of elderly scholars who have actually undertaken useful research work and thereby contributed more evidential factors and effective recommendations, here the research scholar took great points to collect the relevant and critical literature supporting his study and guiding his procedures. He has given briefly some of the literature related to the problem under study. The review of related literature will be finding from libraries of Alagappa University, Karaikudi Tamilnadu State, Laxmibai National collage of physical education, Gwalior, Dr Babasaheb Ambedkar Marathwada University Aurangabad. Bangalore University and Bhairthiar University, Coimbatore T.N.

"The literature in any field forms the foundation up on which all future work will be built"

Curton (2000) conducted a study on flexibility as an aspect of physical fitness. Flexibility exercises have been studied intensively since some of the necessary aspects are not measurable in the living human subject. Research in the area would probe such aspect as.

1. The specific anatomical relation in the joints.
2. The physical characteristics of the tissue.
3. The case of the so called muscle bound condition.
4. The influence of reciprocal innervations and in specific exercise.
5. The balance of the muscle tension over any particular joint.
6. The influence of age.
7. The influence of injuries.
8. Relationships to skill warm-up and endurance, and

9. Relationship to posture and corrective work.

Berger and paradise (2009) conducted the AAHPERD physical fitness tests on 15 boys of junior high school, to compare the physical fitness scores of white and black seventh grade boys of similar socioeconomic level. The two racial groups were matched. It was concluded that black male students in the seventh grade have higher level of physical fitness than whites.

Cook et.al (2004). as per Patellar tendinopathy has been reported to be associated with many intrinsic risk factors. Few have been fully investigated. This cross-sectional study examined the anthropometric and physical performance results of elite junior basketball players with normal or abnormal patellar tendons to see if any measures were associated with changes in tendon morphology. Agility, leg strength, endurance, and flexibility were measured in 71 male and 64 female players. A blinded radiologist ultras no graphically examined their patellar tendons and athletes were grouped as having normal or abnormal tendons. One-way ANOVA was used to test for differences in anthropometric and physical performance data for athletes whose tendons were normal or abnormal (unilateral or bilateral tendinopathy) on ultrasound.

Chaudhary et.al. (2002). Conducted the Physical Fitness Index (PFI), of fifty Residential (Sainik) School children (Mean +/- SD, 13.18 +/- 0.48 yrs) and forty four Non-Residential school children (Mean +/- D, 13.15 +/- 0.66 yrs) of Bijapur, Karnataka, was assessed by Harvard Step Test. Their height (cm), weight (kg), chest circumference (cm), and mid arm circumference (cm) were recorded as physical anthropometry. Body Mass Index (BMI) was also calculated (kg/m2). Results indicated that Non-Residential School children had poor physical anthropometry and showed a less PFI score (Mean +/- SD, 60.56 +/- 13.49), as compared to Residential (Sainik) School children (Mean +/- SD, 85.7
Regular physical activity with uniform diet and better physical composition attributed higher physical fitness in the children of Residential (Sainik) school in comparison to their sedentary Non-Residential counterpart.

Ulijaszek et al. (2007). Anthropometry involves the external measurement of morphological traits of human beings. It has a widespread and important place in nutritional assessment, and while the literature on anthropometric measurement and its interpretation is enormous, the extent to which measurement error can influence both measurement and interpretation of nutritional status is little considered. In this article, different types of anthropometric measurement error are reviewed, ways of estimating measurement error are critically evaluated, guidelines for acceptable error presented, and ways in which measures of error can be used to improve the interpretation of anthropometric nutritional status discussed. Possible errors are of two sorts; those that are associated with: repeated measures giving the same value (unreliability, imprecision, undependability

Khanna, and Ahuja (2003). Conducted a study to determine the level of physical fitness of trained university athletes from body composition, static strength and cardio-vascular efficiency and come to the conclusion that Indian sportsman of university /state / national level had optimum body fat which is lower than the normal sedentary persons.

Jackson and Baker (2001). Conducted a study on 825 young females with AAHPERD Health related fitness test to measure back and hamstring flexibility. The measurements included the sit and reach test and passive hamstring flexibility. The co-relations between the sit and reach test and total back flexibility, upper back flexibility and lower back flexibility were low. These findings indicate
that the sit and reach test has moderate criterion-related validity, when used as an assessment of hamstring flexibility in the health related fitness test.


Amusa and Udoh (2006) conducted a study to find out the physical fitness status of the university of Ibadan female members of staff especially as it relates to the level of participation, awareness of the health problems due to inactivity, early exposure and influence of physical exercise, economic status and the influence of education. A total of two hundred females made up of one hundred non academic members of staff responded to questions built around the above objective. The result indicated that half of the respondents were not engaged in any form of physical exercise since after leaving school. However, 75.7 percent indicated that they had early exposure to well as economic factors contributed to some of the subjects continued participation in physical exercise.

Gostin and Burden (2003). Conducted a study on AAHPER test battery and the AAHPER battery was used to evaluate fitness levels in south African school children. This battery of field tests of various aspects of physical fitness was conducted on white (N=98), Colored (N=92) and black (N=32) senior high school pupils which subjects scored higher on tests of aerobic and anaerobic power, and speed sit-ups. Black subjects were stronger than the other two groups. There were no differences between the subject groups on tests of balance, upper body endurance and agility, than female result on all tests except flexibility male results were higher than female result on all tests except flexibility where the trend was reserved. It was felt that social and economic factors and the intensity of habitual physical activity played a significant role in the result of this study.
Amusa and Udoh (2006) conducted a study on physical fitness using the AAHPERD position paper as a guide. South Carolina published a health-related fitness test and state wide norms. One unique feature of the test visits inclusion of both criterion and norms referenced standards. The battery includes the following components:

1. Cardio respiratory function
2. Body composition
3. Abdominal and low back muscular skeletal function and.

The test provides norms for boys and girls of age sixteen to nineteen years. Oriterian-referenced standards are also included to evaluate the physical fitness status of teacher, encouraging teachers to demonstrate the importance of fitness through participation.

Falls (2000). established norms on the AAHPERD youth physical fitness. The norms were corupured for more than 10,000 young subjects those who fall below the fifteenth percentile in any were advised to participate in a fitness development program.

Hincon and Waddell (2000). conducted a study on two samples of fifty tenth erode girls were administered. Six items of AAHPER youth fitness test and were matched according to scores. Both the conditioning exercise and sports method groups scored higher on strength, power and flexibility of the arm muscle on both the initial and final test. Both groups made the largest percentile gain in speed, agility, flexibility and endurance. The difference between the means of the retest scores for the two groups was not statistically significant.
Lowry and Fletcher (2008) conducted a study on physical fitness using AAHPER test. In his study the selected subject of 1400 senior high school boys from fifty nine schools throughout Arkansas. It was found that six of the twelve factors investigated had a significant relationship.

To the fitness level of the subject’s percentile ratio for senior high school boys in Arkansas on each item of the Youth fitness test were also developed.

Alston and Doroty (2001) conducted physical fitness test using the Virginia physical fitness test, AAHPER youth fitness test and north Carolina physical fitness test were administered to sixty girls in grade nine, ten and eleven. The correlation between the Virginia and the AAHPER test was 0.89, between AAHPER test and North Carolina test was 0.79, and between the two state tests was 0.80. The main difference of the three tests in standard score items were not significant at the 0.01 level. The three tests gave essentially equivalent results for assessing physical fitness of high school girls.

Anderson (1999) conducted physical fitness test on the selected District school children who studied with Rogers physical fitness index. The subjects were 551 boys and girls from nine to sixteen years of age of seventeen schools. Raw data for each subject were converted to physical fitness index. Means were determined for each school, each district represented by the sample and for the entire sample. In addition, mean scores were calculated in the separate test items for boys and girls of each age level. The average physical fitness index was 79.45 A statistically significant differences were found between the districts with highest and lowest means. High scoring age groups for boys were thirteen and fifteen. The scoring age group for girls was eleven.

KoKo (2008) in his study felt that the response of heart muscle to exercise training is similar to that of skeletal muscle. After such training the heart can contract more strongly and in a better co-ordinate fashion, so as to pump out
more blood with each contraction. The coronary circulation increase as a result of the exercise, increasing the endurance of the heart. The lungs are little affected by exercise since their capacity to ventilate air is not taxed even during maximum efforts.

Oded (2001). in his recent work carried out in Czechoslovakia and the United States, shows at the beginning of physical efforts oxygen capacity rises faster among adolescents than among adults. Thus, for example, the oxygen capacity of ten to eleven year old boys even in the first thirty seconds of maximal efforts reaches fifty five percent of its maximum attainable value. Among men aged twenty to twenty two years, the corresponding value is thirty three percent. This clearly shows that at the beginning of effort the initial oxygen deficit of children is considerably less than that of adult.

Khanna et al. (2003). conducted a study to determine the level of physical fitness of trained university athletes from body composition, static strength and cardio-vascular efficiency and come to the conclusion that Indian sportsman of university /state / national level had optimum body fat which is lower than the normal sedentary persons.

Slaughter and his associates (2007) conducted a physical fitness study in relation to somoto type and body composition on seven to twelve year old boys. They concluded that the somoto type was not highly related to physical fitness.

Jackson and Baker (2001). conducted a study on 825 young females with AAHPERD Health related fitness test to measure back and hamstring flexibility. The measurements included the sit and reach test and passive hamstring flexibility. The co-relations between the sit and reach test and total back flexibility, upper back flexibility and lower back flexibility were low. These findings indicate that the sit and reach test has moderate criterion-related validity, when used as an assessment of hamstring flexibility in the health related fitness test.
Jackson and Amusa (2006) conducted a study to find out the physical fitness status of the university of Ibadan female members of staff especially as it relates to the level of participation, awareness of the health problems due to inactivity, early exposure and influence of physical exercise, economic status and the influence of education. A total of two hundred females made up of one hundred non academic members of staff responded to questions built around the above objective. The result indicated that half of the respondents were not engaged in any form of physical exercise since after leaving school. However, 75.7 percent indicated that they had early exposure to well as economic factors contributed to some of the subjects continued participation in physical exercise.

Gostin and Burden (2003) conducted a study on AAHPER test battery and the AAHPER battery was used to evaluate fitness levels in South African school children. This battery of field tests of various aspects of physical fitness was conducted on white (N=98), Coloured (N=92) and black (N=32) senior high school pupils which subjects scored higher on tests of aerobic and anaerobic power, and speed sit-ups. Black subjects were stronger than the other two groups. There were no differences between the subject groups on tests of balance, upper body endurance and agility, than female result on all tests except flexibility male results were higher than female result on all tests except flexibility where the trend was reserved. It was felt that social and economic factors and the intensity of habitual physical activity played a significant role in the result of this study.

Falls (2000) established norms on the AAHPERD youth physical fitness. The norms were corrupted for more than 10,000 young subjects those who fall below the fifteenth percentile in any were advised to participate in a fitness development program.
Hincon and Waddell (2001). conducted a study on two samples of fifty tenth erode girls were administered. Six items of AAHPER youth fitness test and were matched according to scores. Both the conditioning exercise and sports method groups scored higher on strength, power and flexibility of the arm muscle on both the initial and final test. Both groups made the largest percentile gain in speed, agility, flexibility and endurance. The difference between the means of the retest scores for the two groups was not statistically significant.

Lowry and Fletcher (2008). conducted a study on physical fitness using AAHPER test. In his study the selected subject of 1400 senior high school boys from fifty nine schools throughout Arkansas. It was found that six of the twelve factors investigated had a significant relationship. To the fitness level of the subject's percentile ratio for senior high school boys in Arkansas on each item of the Youth fitness test were also developed.

Field and Arthur (2001). conducted AAHPER physical fitness test items on fifty seven male university students. The test was administered four times in four weeks.