CHAPTER - II

REVIEW OF LITERATURE
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The review of literature is instructional in the selection of the topic, formation of hypothesis, deductive reasoning and learning of the problem. It helps to get a clear idea and support the findings with regard to the problem under study. A study of relevant literature is an essential step to get a full picture of what has been done with regard to the problem under study. Such a review brings about a deep and clear perspective of the overall field.

The investigator has made in a scholarly attempt to locate a number of researches of the similar nature by various scholars. The investigator took great pains to collect the relevant and critical literature supporting his studies and guiding his procedures.

LITERATURE ON PERFORMANCE

Related physical fitness

The literature in any field forms the foundation upon which all future work will be built Aggarwal1.

A study of relevant literature is an essential step to get a full picture at what has been done with regard to the problem under study such a review brings about in deep and clear perspective of the overall field. In order to support the presentation and analysis of the study
the research scholar collected research reference materials from various books and journals and has presented in this chapter.

Sukla and Sharma² conducted a study on the relationship of physical fitness measures with socioeconomic status and age of sports men. The study has been taken by 138 sports men who represented Uttar Pradesh State in different sports events.

AAHPERD test was given to find out physical fitness. For the purpose of analysis the group was further divided into three age groups. Fourteen, sixteen, seventeen to nineteen years and over nineteen years 't' test was used to find out difference in each category. The result related that with the advancement of physical characters such as height, weight, also improve, socioeconomic difference effect on physical fitness of sports men. The differences effect on physical fitness of sports men. The athletics belonging to higher socioeconomic status group were significantly higher on different physical fitness components as compared to lower socioeconomic status group.

The components of both health related and performance related physical fitness are similar. For example cardiovascular function, body composition, strength and flexibility. However, the degree of development of each varies with the two types of physical fitness compared to health related fitness a more extensive development of these components may be required to achieve an appropriate level of performance related fitness. Performance related fitness is often associated with sport for example athletes may need
to develop fitness component of strength to a greater degree (performance related fitness) than average citizens interested in improving and maintaining their health Bucher\(^3\).

Lane\(^4\) conducted a study using the AAHPERD youth physical fitness test and the Hamilton motor ability test on sixty nine girls aged fourteen years. Before and after planned physical fitness program the group improved on both the test and the correlation between physical fitness and motor ability was higher after the planning fitness program.

Physical educators have long believed that exercise is important to maintain good health. Today degenerative diseases (Cancer, Heart disease) have replaced communicable disease (Tuberculosis Pneumonia) leading causes of death in America, cardiovascular disease the united states and other highly industrialized countries Jackson\(^5\).

Bucher and West\(^6\) conducted studies of the physical fitness status of American boys and girls indicated only marginal improvement in recent years. A study was conducted by the university of Michigan for the united states office of education of children and youth from 1965 to 1975 utilizing the AAHPERD youth fitness test and a national sample of 7800 boys and girls 17 to 19 years age. These test results were compared with a similar study for the period between 1958 and 1965.

Zuti and Carbin\(^7\) conducted a research on physical fitness norms for college freshman. They too 3000 freshman of Kansas state
university with the age from 17.6 years to 19.5 years. The tests were conducted for strength flexibility, body composition and cardiovascular fitness. The results appear to indicate that the college freshman at Kansas state university were average and the standards were appropriate for use for Americans.

Hardayal Singh prepared physical fitness norms for high school boys of Punjab State. Data were collected on five thousand subjects from various schools in the state. The test consist of eight items that is standings broad jump, sit and reach test, agility run and knees bent sit-ups, 50 metres dash, push ups, cricket ball throw and 600 metres run/walk. The percentile norms for physical fitness tests were physical fitness level of the high school boys of 12 to 15 years of age.

Inbarajan constructed norm in performance related physical fitness selected athletic events for under graduate physical education men students in Tamilnadu 381 men students were selected as subjects from 4 colleges age group of 18 to 22 years. For the norms construction from the standard athletic event following are chosen 100 metres, 1500 metres, long jump, shot put out of 381 subjects, 53 poor 78 fair, 102 average, 93 good, 54 very good and 1 excellent. For 1500 metres out of 381 subjects, 58 poor, 72 fair, 117 average, 71 good, 58 very good and 5 excellent. For shot put, out of 381 subjects, 62 poor, 112 fair, 95 average, 35 good 50 very good, 27 excellent.

Glencross constructed a test of leg power with 80 male students of teachers having the age group of 17 to 22 years, of five groups with
the strength of ten to nineteen. To establish the reliability they used test retest method and the objectively was established using analysis of variance.

Barman\textsuperscript{10} studied the AAHPERD youth fitness test battery and administered the test to 78 girls in grade VIII at Mitchel Junior High School. The girls were classified by the Nelson Cozens classification index and composed with national norms. The girls were above the average in sit-ups, standing broad jump, 600 yard run and walk, 50 yard dash and shuttle run but below the average in the softball throw and modified pull ups. The differences were attributed to their physical education program.

Jackson and Baker\textsuperscript{11} 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 correlations between the sit and reach test and total 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 on the health related fitness.

Coutts\textsuperscript{12} conducted study to establish norms for the coopers 12 minutes run and walk test application to young males. Eight boys of eleven to fourteen years of age served as the subjects. The difference between the two groups was statistically significant. The correlation coefficient between aerobic capacity and run walk performance was
0.65 while the correlation was statistically significant (.01) caution was advised in attempting to predict aerobic capacity from run and walk performance with young urban subjects.

**Literature on Health Related Physical Fitness**

Jeyaveerapandiyan\textsuperscript{12} conducted a study on construction of norms for health relates physical fitness test for high school boys in Madurai Kamarajar, Ramnad and Coimbatore District. Two thousand boys from the above districts were selected for the study. The following variables were selected for this study nine minutes run, sit-ups, body composition and sit and reach. Mean standard deviation and hull scale were the statistical methods used for this study in nine minutes run as per the qualitative grading for the constructed norms, 251 subjects were poor, 523 subjects were good, in sit-ups as per the qualitative grading for the constructed norms, 207 subjects were poor, 348 subjects were good, in body composition as per qualitative grading for the constructed norms, 331 subjects were poor, 203 subjects were good and in sit and reach as per the qualitative grading for the constructed norms, 345 subjects were poor and 403 subjects were good.

Dorothy\textsuperscript{13} evolved norms of physical fitness for college women from 57 colleges. The data from 3,300 subjects were collected for seven items. Percentile norms were calculated from 9 to 100 at an interval of 5 figure 8 run are optimal for secondary school boys and girls in order to enter achievements for special averment fitness awards norms for
the test items were available separately for boys and girls at each age from five to eighteen years they took the form of performance required for your award levels, known as certificates 30th percentile, standard 50th percentile merit 80th percentile Governor 85th percentile.

Rao\textsuperscript{13} conducted study on construction of norms for health related physical fitness variables for high school boys 15 years of age in Andhra Pradesh. He selected 1005 subjects from various schools in Andhra Pradesh. The following variables were selected for this study. Aerobic endurance body composition, muscular strength and upper body strength mean, standard deviation and hull scale were the statistically techniques used in aerobic endurance as per the qualitative grading for the constructed norms 185 subjects were poor, 194 subjects were fair, 319 subjects were average, 182 and 41 subjects were fair, 319 subjects were average, 182 and 41 subjects were excellent. In body composition as per the qualitative grading for the constructed norms. 181 subjects were poor, 218 subjects were fair, 383 subjects were average, 102 subjects were good, 63 subjects were very good and 58 subjects were excellent. In flexibility as per the qualitative grading for the constructed norms 170 subjects were average, 210 subjects were good, 72 subjects were very good and 52 subjects were excellent in muscular strength, endurance as per the qualitative grading for the constructed norms 334 subjects were poor 249 subjects were fair, 202 subjects were average, 159 subjects were fair, 290 subjects were average, 170 subject were good, 52 subjects were very good and 38 subjects were excellent.
Senthilkumar\textsuperscript{14} conducted a study on construction of norms for health related physical fitness test for Kanyakumari, Tirunelveli and Chennai District School Boys. Two thousand and eleven students in the age group 13 to 14 years were selected of the subjects for his study. For nine minute run and walk, 298 were poor, 457 were fair, 482 were average 432 were good, 220 were very good, 122 were excellent. In sit ups 13 were poor, 372 were fair, 533 average, 458 were good and 270 were good and 65 were excellent.

Kesavan\textsuperscript{15} conducted a study on construction of norms for health related physical fitness test for high school boys in Dharmapuri Salem, Periyar and Nilgiri District. Two thousand and thirty eight students were selected of subjects. For sit-ups 293 students were poor, 345 students were fair, 585 students were average, 499 students good, 265 are very good 51 students were excellent.

Mastkewi\textsuperscript{16} in his study he prepared the national norms for the one minute Basket ball throw for goal, pull-ups, Potato race, standing hop-step and jump, push – ups standing broad jump and soft ball target throw items of the YMCA national athletic achievement program. He tested 2000 boys of each group throughout the united states and the author obtained five percent of the score at Salem YMCA.

Biltor\textsuperscript{17} constructed norms table for grade 9-12 years boys taking pull – ups two minutes sit ups standing broad jump and 300 yard shuttle and run showed their validity against the AAHPERD youth fitness test, validity and reliability coefficient were 0.934 and 0.967 respectively.
Beger and Paradis constructed the AAHPERD physical fitness test on hundred and fifteen boys of junior high school to compare physical fitness scores of white and black seventh grade boys of similar socioeconomic level. Two racial groups were matched. It was concluded that black male students of similar socioeconomic level of while in the seventh grade had a higher level of physical fitness.

Busch\textsuperscript{17} conducted a study on South Dakota high school girls one school was selected to represent each region and the number of students selected from each school was in proportion to the schools enrollment 1000 South Dakota girls were selected of subjects from all the high schools from grade VII through X. AAHPERD youth fitness test was administered norms were establish by computing every lift percentile. The scores of South Dakota girls were higher than those for national girls in all items except flexed arm hang.

Sittman conducted a study to develop norms for North East Missouri State University students enrolled in health and physical fitness concept closes 372 male and 648 female subjects were tested for the sum of 6 skin folds predicted fat predicted Vo$_2$ max, grip strength, leg strength back strength, vertical jump distance and vertical jump power, means, standard deviations and range for all variable were calculated. Classification was based on uses percentiles in increments of 5 were constructed for each variables in each classification.

Wolf\textsuperscript{18} administered AAHPERD youth fitness test to a sample of fifty six boys including 20 athletes and 36 non athletes in 1960. The
regular programme of physical education was given to all closes until the first week of 1961. The test was again administered after which closes were exposed to an acceleration programme of conducting (running and Calisthenics). The test was repeated in the first week of May 1961. Significant increase was noted on both the groups as a result of accelerated conditioning programme in pull-ups perhaps and 600 yard run and walk. The run athletic group showed significant improvement from accelerated programme in all events except standing broad jump.

**Literature on Motor Fitness Test**

Shukla and Sharma\(^1\) conducted a study on motor fitness test on rural and urban Indian sportsman.

The study was conducted on 120 sportsman as subjects they participated in games like Hockey, Hand ball, Cricket, Kho-Kho, Athletics and Volley ball, urban boys participated in mini national state and national games, while rural boys participated inter-collegiate rural state and national tournaments age group was varied between thirteen to twenty two years. They were divided into three groups 'A' thirteen to twenty two years. They were divided into three groups 'A' thirteen to sixteen years 'B' seventeen to nineteen year and 'C' above nineteen years, height and weight recorded AAHPERD test were employed.

The result revealed that in the sportsman had very poor result indicating very low explosive capacity. Further the rural sportsman
were very poor in shuttle run indicating minimum agility in them. The rural boys A and B groups were observed to possess poor anaerobic muscle power had been revealed by 60 yard dash run. The overall performance of the urban sportsmen were higher than the rural players.

Patrick\textsuperscript{19} had constructed a motor fitness battery for girls in lower elementary grades. The items included in this test were clerk's strength composite, Mechloy's endurance ration, leg extension and flexion, well's sit and reach, dodging run, bass length wire stick balance, and vertical jump. It measured the essential components of motor fitness such as muscular strength, muscular endurance, cardiovascular endurance, flexibility, agility, balance and power.

Baskaran\textsuperscript{20} constructed a norm for agility coordination test for Tamilnadu College men players. One hundred eighty five players of Basketball, football, hockey and volley ball games were selected randomly from 63 colleges in Tamilnadu. It was found that 140 players out of 1085 players were poor in agility, 805 were found to be good, 140 players were good and nobody found to be excellent.

**Summary of the literature**

In this present study the youth physical fitness test, Health related physical fitness test and motor fitness test has been analyzed thoroughly. The investigator has thoroughly gone through all the above literature.
Totally Thirty one reviews of related literatures were collected from journals and periodicals. In the performance related physical fitness test, 15 reviews were collected. In the performance related physical fitness test 12 reviews were collected and in motor fitness test, 4 reviews were collected.

Thirty one reviews of related literature are collected in which 10 reviews are significant and 5 reviews are insignificant. In performance related physical fitness test, seven are significant and 5 are insignificant, in health physical fitness test and motor fitness test three are significant and one is insignificant.
REFERENCES


4. Lane George C, *The relationship between physical fitness and motor ability before and after a physical fitness programme for girls*, Completed Research in Physical Education and Health Education (1968). P. 59


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