
Chapter - II

REVIEW OF LITERATURE

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REVIEW OF THE RELATED LITERATURE

Sincere efforts have been made by the researcher scholar to locate literature studies found from various sources which the research scholar has come across, are cited below.

Mookerjee made a comparative study of physical fitness of young boys in the age groups of 13-17 years belonging to residential and nonresidential and also less active boys of the same age group. The result of this study was that there is no doubt that regular physical activity contributes significantly to the enhancement of physical status: Physical fitness of residential active subjects was definitely of superior level to that of the boys living in the city. Pure fresh unpolluted air, nutritious diet and a reasonable amount of physical hardship are chief contributory factors in promoting physical fitness (S. Mookerjee, 1978).

Craig compared the physical fitness levels of Canadian and South African school boys. He used AAHPER Physical Fitness Test Battery. The results showed that physical fitness levels of South African high school boys is higher than those of Canadian high school boys (Andrews. B.C. 1976). Ikeda employed the Iowa Test of Motor Fitness in order to compare the physical fitness of children in Iowa and Tokyo, Japan. The results indicated that Tokyo children scored better in all motor performance tests except one i.e. sit-ups. He also found that Tokyo children

had greater chances for activity through - physical education classes than the Iowa group (Nameka Ikeda, 1962).

Johnson carried out the study to gain an understanding of the inter-relationship between a students level of physical fitness. A further purpose was to determine if Negro Students differ significantly in terms of physical fitness and self confidence from white students. He found out that Negro high school boys were superior to white boys in strength, cardiovascular endurance, state of health, physical appearance, skills and sexability. A greater relationship between physical fitness and self confidence was found among white than among Negro high school students (Johnson. J. B. 1971).

Robson *et. al.* administered the simple physical fitness test battery for study of physical fitness of elementary school children (of defense and non-defense personnel. One hundred and fifty boys and girls from grades one through five of Kendriya Vidyalaya, Gwalior, were selected at random as subjects for the study. To assess the physical fitness, the subjects were administered the simple physical fitness test battery for elementary school children which was constructed at Lakshmibai National College of Physical ill improvement significantly favoured lie more frequent performance (Jerome Phillip Sorenson, 1970).

Gregor and Barrie tested fourteen year old boys who had lived in typical rural and urban setting on Prince Edward Island providing the sample population.

It was hypothesized that the urban boys would score better on selected fitness tests of running, jumping and sit-ups. The hypothesis proved valid except for 50 yard dash and fixed arm hang (Mac Gregor and D. Bmrie, 1970).

Ray in his study compared the physical fitness of Tribal and Urban students in Tripura. He administered the AAHPER Youth Fitness Test to 60 Tribal and 60 Urban students studying at M.B.B. College, Agartala, their ages ranging from 16 to 20 years. The mean differences between the physical fitness of urban and tribal students was not found statistically significant at .05 level of confidence. It was found urban students were better in pull-ups and soft-hall throw for distance and their superiority was statistically significant at .05 level of confidence, but in the remaining five test items i.e., 50 metere dash, 600 metre un/walk, sit-ups, shuttle run and standing broad jump. The difference in performances of neither of the groups were found statistically significant at .05 level of confidences (Bijay Krishna Ray, 1979).

Ealph conducted AAHPER Youth Fitness Test on 400 Negro and white boys from the Texas School District. All the test data were collected during spring semester of 1969-70 school year. It was found that Negro boys obtained a higher mean score than the While boys on gross body co-ordination (soft-ball throws). The difference was significantly higher than white boys in muscular explosiveness (Standing board jump). A large mean difference was obtained at the .01 level of confidence (Layd Dahl Ealph, 1971).

Hincon and Judia Waddell ¹

Tenth grade girls were administered. Five items of AAPHER 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.

Siddique ²

Conducted a study on elements of physical fitness of the offence and defense of football player of Madras city. The result of this study was that defensive players have scored significantly higher than the offensive players in dynamic strength of hands. Static strength and equilibrium. The offensive players were significantly faster in dynamic strength of legs than defensive players. The offensive players were significantly faster in speed and change of direction (agility).

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1. Hincin and Judia Waddell, "*A Comparative Study of Two Programme of Physical Education for Increasing Physical Fitness*", The sports method and the conditioning exercise methods, (1970), 52
 2. A.A. Siddique, "*Physical Fitness Analysis of Football Players*," Unpublished Master's Thesis Physical education. p.p. 74-75.

Mall, Mall and Paul ³ investigated the physical fitness of high school students of D.A.V. Schools and also found out the relationship of their physical fitness of socio-psychological variables. The results showed that the physical characteristics of height and weight of three selected group (13, 14 and 15 years) with high academic achievements did not show any significant differences.

Gregor and Barric ⁴ tested fourteen old boys who had lived in typical rural and urban setting of Prince Edward Island. His study proved that urban boys performed better on selected fitness tests of jumping and sit-ups. They were inferior to rural boys in 50 yard dash and flexed arm hang.)

Saha ⁵ made a study to compare the selected physical fitness variables and anthropometric measures of tribal and non-tribal students items of AAHIPER Youth Fitness Test i.e. 50 yards run, 4x10 yard shuttle run and 600 yards run/walk and selected anthropometric measurement i.e. chest girth, height, weight, upper arm girth, thigh girth and calf girth. In all tests and measurements the mean score of the composite scores of tribal students was higher than their non-tribal counterparts but none of the difference in means were found statistically significant at 0.05 level of confidence.

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3. N.N. Mall, T. Mall and V.P. Paul, "*Comparative Analysis of Physical Fitness with Same Physical and Socio-Psychological Variables of School Boys (13-15 Years) Possessing High Academic Achievements*," SNIPES Journal 2 (October 1978) 35.
 4. Mac Gregor and D. Barric, "*A Comparative Investigation of Fitness Performance in Rural and Urban School Boys*," Complete Research in Health, Physical Education and Recreation 12. (1970):223.
 5. Umesh Chandra Saha, "*Comparison of Selected Anthropometric Measurements and Physical Fitness Variables of Tribal and Non-Tribal Students of Tripura*," (Unpublished Master's Thesis, Jiwaji University).

Mehta ⁶ compared the fitness of tribal and non-tribal school girls of Indore division. The subjects were seventy five girl students of each tribal and non-tribal schools and age was between 12 and 17 years. There was significantly difference found in physical fitness level as obtained from AAHPER Youth Fitness Test between Tribal and Non-tribal girls. The performance was significantly greater in flexed arm hang, sit-ups and shuttle run. Non-tribal girls were significantly better than tribal girls in total physical fitness.

Ikeda ⁷ took the Iowa motor fitness test in order to compare the physical fitness of children in Iowa and Tokyo, Japan. The results indicated that Tokyo children scored better in all motor performance tests except one, the sit-ups. He also found out that Tokyo children had more chances for activity through physical education classes with Iowa groups.

Boon ⁸ administered AAHPER Youth Fitness Test to 100 rural and 100 urban boys. The urban boys were found superior to the rural boys and the difference was significant at 0.01 levels. The two samples were weaker on the same components of physical fitness.

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6. M. Mehta, "*Comparison of Physical Fitness of Tribal and Non-Tribal School girls and Indore Division*," (Unpublished Master's Thesis, Jiwaji University).
 7. Namike Ikeda, "*A Comparison of Physical Fitness of Children in Iowa, U.S.A. and Tokyo, Japan*," *Research Quarterly* 33 (December 1962):541.
 8. Herman Boone, "*A Comparison of the Physical Fitness Level of Urban and Rural Boys*" *Complete Research in Health, Physical Education and Recreation* 9 (1967):86.

Ray ⁹ made a study to compare the physical fitness of tribal and urban students in Tripura. He administered the AAHPER Youth Fitness Test to sixty tribal and sixty urban students studying in M.B.B. College, Agartala. Their ages ranged from 16 to 20 years. The mean difference between the physical fitness of urban and tribal students was not found statistically significant at .05 level of confidence. It was found that urban students were better in put-ups and soft ball throw for distance and their performance was statistically significant at 0.05 level of confidence. But in remaining five test items i.e., 50 metre dash, 600 metre run / walk, sit-ups, shuttle run and standing broad jump, the performance of none of the groups was found statistically significant at 0.05 level of confidence.

Siewert ¹⁰ examined the impact of different elementary school experiences upon achievement in certain aspects of physical fitness and sports skills. He tested 85 grade nine boys (27 with rural background, 38 with urban background and 20 with parochial school background) for speed, power, muscular endurance and skills in different games. Study of total scores showed that boys with rural, parochial or urban experience did not differ in physical fitness but boys from urban and parochial schools were superior in sports skill.

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9. Bijay Krishna Ray, "*Comparison of Physical Fitness of Tribal and Urban Students in Tripura*," (Unpublished Master's Thesis, Jiwaji University).
 10. Frank Siewert, "*A Comparison of Some Components of Physical Fitness and Sports Skill of Ninth Grade Boys of Rural, Urban and Parochial Background*." Completed Research in health, Physical Education and Recreation S (1963):96.

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Robson *et al.*,¹¹ administered the simple physical fitness test battery to study the physical fitness of elementary school children of defence and non-defence personnel. One hundred and fifty boys and girls from grades one through five of Kendriya Vidyalaya, Gwalior were selected at random as subjects for the study. To assess the physical fitness, the subjects were administered the simple physical fitness test battery for elementary school children which was constructed at Lakshmi Bai National College of Physical Education, Gwalior in the year 1977. The test battery composed of six items (50 metre dash, 4x10 metre shuffle run, sit-ups, modified pull-ups, vertical jump and 600 metre nm/walk) was administered to both boys and girls. The boys and girls belonging to defence personnel had shown statistically significant higher performance in physical fitness as compared to boys and girls of non-defence Personnel.

Vincent¹² conducted a test of “motor performance of girls from twenty through eighteen years of age”.

Three hundred girls in Georgia ranging from 12 through 18 years of age and enrolled in physical education from the seventh grade through the freshman year in college were given eight motor performance test items to measure running, jumping, throwing speed, and agility.

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11. M. Robson *et al.*, “Comparative Study of Physical Fitness of Elementary School Children of Defence and Non-Defence Personnel,” SNIPES Journal 1 (October 1978):22.
 12. Marilyn F. Vincent, “Motor performance of Girls from Twelve through Eighteen years of Age”. The research Quarterly, 39:4 (December 1968), P. 1094.

The study was undertaken to test the hypothesis that girls do not improve in motor performance after the age of 13.5 years and also to investigate whether significant differences existed in motor skills according to age-grade level. Analysis of variance on each of the eight test items for each age of 14.4 years scored highest on two items, tenth and college girls scored highest on two tests, the hypothesis that girls generally do not evidence improvement in motor skill after the age of 13.5 years was rejected.

The purpose of the study was to develop short motor fitness test batteries for high school girls who could be economically administered in terms of equipment and class time. The component which might contribute to motor fitness were listed and appropriate items pertaining to the components were selected for their content validity and suitability utilizing appropriate statistical technique, the modified pull-ups, 100 yard run and standing broad jump were selected as the items for the batteries.

In 1927, Brace¹³ brought forward a motor ability which has proved exceedingly variable in the classification of pupils and in furnishing a basis upon which to evaluate achievement.

Drowagky and Madory¹⁴ conducted the study of evaluation of physical and motor fitness of boys and girls in cowboy Oregon schools.

13. Brace K. David. *"Measuring Motor Ability,"* (New York: A.S. Branses and Company, 1927), P.xvi.

14. Joho Drawatgky and Charms J.Madary, *"Evaluation of Physical and Motor Fitness of Boys and Girls in Good Boy, Oregon School,"* The Research Quarterly, 37:1 (March 1966), P.32.

The purpose of this study were to evaluate the physical and motor fitness of approximately 3,400 boys and girls in grades through 12, aged it evaluate the effectiveness of the current physical education program in the development of fitness. Generally speaking, a program decline in the girl fitness score means through the junior and senior high school grade was discovered. The results indicated the fitness levels of the boys tested were favorable but not pronounced. Boys who participated in additional physical activity outside the regular physical education classes were significantly more fit than those who did not participate in such activity. Tenth grade boys and girls demonstrated higher levels of motor fitness than the 11th and 12th graders who were exempt from physical education.

Burdesha ¹⁵ conducted a study on evaluation of general versus specific instruction of badmintons skills to women of low motor ability. The study evaluated the effectiveness of a basic skills course as a pre-requisite for performing badminton skills among college women of low motor ability. Subjects (N=106) classified by the Scott motor ability test were assigned to one of three groups:

15. Dorothy Burdesha, "Evaluation of General Versus Specific Instruction of Badminton Skills to Women of Low Motor Ability:" *The research Quarterly*, 41:4 (October 1956), p. 253.

- a) A group that experienced a basic skills course prior to badminton instruction,
- b) A group enrolled initially in badminton and
- c) A group that experienced another sport prior to badminton instruction.

Data were collected on performance of badminton in badminton skills for each group at mid semester and at the end of semester. No significant differences were found between groups on performance of badminton skills. Results supported the theory of specificity in varying motor skills and did not work basic skills large in facilitating performance of the specific skills on badminton.

Bennett conducted a study of the relative contributions of modern dance, folk dance, basketball and swimming to select a general motor ability of college women.

Seventy nine college freshman women divided at random in to the four classes were given eleven tests designed to measure ability, coordination, general strength, abdominal strength, flexibility, speed leg strength, power arm and shoulder girdle strength, balance, endurance, and general motor ability. The relative stages of the four activities in the development of selected and general motor abilities was first swimming and modern dance, second basketball and third folk dance.

Mcqui ¹⁶ used the quartile limits of the American and Japanese norms as base for comparing separately with Chi-square the performance of entering Philippine students whose age were 15,16,17 or 18 and over years. Most of the shuttle run times were in the top carfile of both the American and Japanese norms for all the age groups. 15 years old Philippine boys performed better than their American counterparts as the other items. However, the performance of Philippine boys in the pull-up throw for distance and sit-ups showed considerable deficiency in arm and abdominal fitness.

Berger and Paradis ¹⁷ conducted the AAHPER Physical Fitness Test in 115 boys of Junior High School, to compare the physical fitness scores of white and black seventh grade boys of similar socio-economical level. Two racial groups were formed consisting of 30 white and 30 black students who were matched as age and socio-economic level. There means of height and weight of white students was a little greater than that of students. There was significant difference between the groups in age, height, weight and socio-economic level.

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16. Aparicio Mcqui, "*Comparison of Performances in the AAHPER Youth Fitness Test between University of the Philippines entering Freshmen Students and American Japanese Boys.*" Completed Research, 8 : 1, (1960), p. 78.
 17. Richard A. Berger and Robert I. Paradix, "*Comparison of Physical Fitness Scores of White and Black Seventh grade boys of Similar Socio-economic Level,*" Research Quarterly, 8. (1989) pp. 66-68.

The results showed that the black students exceeds the white students significantly on the shuttle run, 50 yards dash, 600 yards run composite fitness score. It was concluded that black male students of similar socio-economic level to white students in the seventh grade have a higher level of physical fitness.

Tillman ¹⁸ in the investigation employed 386 high school junior and senior boys and girls, administered a physical fitness test. The boys and girls who finished in upper fifteen percent on the test were compared by the use of a battery of three personality tests with the boys and girls who were in the lower fifteen of his study the low physical differences were found. In the second phase of his study the low physical fitness group was divided into control and experimental group. A nine month physical fitness program for the experimental groups results in a significant gain in physical fitness.

A study was conducted by Kirth ¹⁹ to find out the relationship between body composition measures and AAHPER test performance for 49 girls at 11 years of age. It concluded that not only not only variation in body size but also variation in body composition should be considered when interpreting the results of AAHPER test.

18. Kenneth Tillman "*Relationship between physical fitness and selected personality traits*" research quarterly, 36 : 4 (December, 1965) p.423.

19. Kirth J. Cureton, Richard A. Bolieav Nad Timoty G. Lokman, "*Relationship between body composition and AAHPER test performance in youth girls*" Research Quarterly, 46 : 22 (May, 1975), pp. 18-227.

In 1980 the AAHPER health related fitness test measured back a hamstring flexibility of 835 yard females were administered two trails of three tests. The measurements included two sit and reach test, passive hamstring flexibility. The correlation between the sit and reach test and total back flexibility and lower back flexibility were low. These findings indicated the sit and reach test has moderate criteria related validity when used as an assessment of hamstring flexibility in health related fitness test ²⁰.

Mc Gray ²¹ in his study administered three fitness tests like push-ups, sit-ups and on our four separate days to elementary and junior high school girls to determine the relative reliabilities of using a simple trial. Letter of two trials and average of two trials. A tend analysis of dark revealed significant improvement during the four trial and scores increased significantly from trail to trail on push ups. Neither the better of two trials not the average of two trials was found to do any more reliable than a single trial.

Berger AND Paradis ²² junior higher school for physical fitness by the AAHER youth fitness test. In addition, data were collected for age height, weight and socio-economic level of each boy and girl.

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20. Allen W. Jackson and AliceA. Backer, "*The relationship of the sit and reach test to criterion measures to hamstring and back flexibility in young females*", Research Quarterly, 57:3 (November, 1986) p. 183.
 21. Lynn W. McGray , "*Reliability of fitness strength test*" research Quarterly, 36:3 (October, 1965), p. 289.
 22. Richard A. Berger and Robert L.Paradis, "*Comparison of physical fitness scores of white and black seventh grade boys girls of similar social economic level*" Research Quartely.40 : 4 (December, 1969), p. 666.

Two racial groups were formed consisting of thirty white and thirty black students who were matched on age and socio-economic level the purpose of this study was to determine whether the physical fitness of white and black student of equal socio-economic level was significantly different. The black student exceeded the white student significantly on the shuttle run, 50 yards dash, 600 yards run and composite fitness score.