



A Study on Health Related Physical Fitness of school students in Bandipora District.

Aejaz Ahmad Bahar ¹ DR.Manoj Kumar Pathak ² DR.Suhail Yaqoob Bhat ³

¹Research Scholar, Deptt .of Physical Education, Rabindranath Tagore University (MP Bhopal).

²HOD, Deptt.,of Physical Education Rabindranath Tagore University (MP Bhopal).

³Physical Education Teacher J&K U.T

Abstract:

The main purpose of the study was *A Study on Health Related Physical Fitness of school students in Bandipora District.*. The research has significance as it studies the health related physical fitness of the students from high schools comparatively by conducting various tests. Tests were taken as per the time table of the school to measure the health-related physical fitness components of 11 to 12 years old school going boys from Rural, Tribal, and Urban school in Bandipora District. Simple Random Method (SRM) was used. Descriptive statistics was used for obtaining mean and standard deviation the level of significance was fixed at 0.05

Key words: Muscular Strength, Body Composition, Rural and Urban.

Introduction:

It is self-evident that the fit citizens are a nation's best assets and weak ones its liabilities. It is therefore the responsibility of every country to promote physical fitness of its citizens because physical fitness is the basic requirement for most of the tasks to be undertaken by an individual in his daily life. The World Health Organization defines health as: "Health is physical, mental, social and spiritual well-being, not merely the absence of disease and infirmity." The World Health Organization (WHO) has set a target that every person in the world should become health conscious by 2000 AD and its right step in the attainment of health for all. Today fitness is needed for two reasons. Firstly, it is needed for taking part in competitive sports participations and secondly it is required for maintaining the health in a good condition. Pate writes that health-related physical fitness is relevant to all children. Many health leaders feel that foundation for life time fitness can be laid through youth programmers. Scientists and doctors have known for years that substantial benefits can be gained from regular physical activity (Manley, 1996). Today there are strong evidence suggesting that regular physical activity provides clear and substantial health gains. Physical activity is also directly related to preventing disease and premature death and to maintaining a high quality of life that its importance must be understood at all levels. Regular physical activity is an essential adjunct to normal growth and development. Through physical activity children become fitter and healthier. The programme of physical

education is intended not only to achieve physical fitness but also optimum organic health, emotional stability, social adaptability to take proper decisions and Uppal,

develop skills that will enable a child to participate in various activities.⁴ In India, children become far less active as they move through adolescence and it is found that obesity is increasing among children. All these findings indicate that current physical education programs are inadequate to promote lifetime physical fitness. These findings have made physical educators realize that a change in curriculum is needed which would lead to development of attitude towards lifelong exercise behavior with special emphasis on health related fitness

Physical fitness components:

The physical fitness considered for this study is limited to selected physical fitness factors viz. Muscular Strength and Muscular Endurance and Body Composition.

Muscular Strength

Muscular Strength and Endurance in this study means the arms and shoulder muscle strength and endurance performance of 11 to 12 years school going boys measured through Push-ups.

Muscular Endurance

Muscular Endurance in this study means the abdominal muscle endurance performance of 11 to 12 years school going boys measured through one minute Sit-ups.

Body Height

Height in this study means the maximum height of the individual when standing erect.

Body Weight

Weight in this study means the maximum weight of the individual when measured through electronic weighing scale.

Body Composition

The body composition in this study means Body Mass Index and % Body Fat of boys.

School going Boys

The School going boys who are of age 11 years and 12 years . For the academic year 2019-20, student's birth date after 1 Jan.1994 was considered for the present study.

- **Rural Schools**

The schools that come under the jurisdiction of bandipora District.

- **Urban Schools**

Schools under the Municipal Corporation, which are aided and unaided in Bandipora city.

- **Tribal schools**

The Schools of remote area / places that are regulated by Distict. Especially for Tribes in Bandipora district.

Methodology

The population was the adolescent school going boys aged 11 to 12 years. 06 secondary schools are located in Rural, Tribal and Urban areas in Bandipora district. In the age groups 11 to 12 years, approximately 200 boys were studied in secondary schools

Variables which were used in this study are as under:-

1. Body Height– The height was recorded in centimeter
2. Body Weight– The weight was recorded in kilogram
3. Push-ups- The total number of pushups completed successfully were recorded as the score.
4. Sit-ups - The total number of Sit-ups successfully completed was recorded as the score. The test allows for a one minute time limit.
5. Body Mass Index (BMI)- After calculation, the score of BMI is expressed

The data collected on subjects in respect of different physical fitness test items was utilized for constructing the following scale mean, median, mode, std. deviation, and variance, Skewness, Std. Error of Skewness, Kurtosis, Std. Error of Kurtosis and percentiles scale. For construction of percentile scale each percentile point between 5 and99 was separately computed for each of the physical fitness test items using the statistical procedure suggested by Clarke and Clarke¹.The percentile norms for each of Health related physical fitness factor for each age group

Observation and Discussion

Table 4.32

Descriptive Statistics of variable Height of 11 years Age Group Boys

S.NO	AREA	MEAN	Standard Deviation
1	Rural	1.32	0.04
2	Tribal	1.30	0.05
3	Urban	1.38	0.06

Table 4.32 indicates the mean performance of **body height** between Rural, Tribal and Urban **11 years** Boys as follows:

- Height of Rural Boys was higher than Tribal Boys.
- Height of Urban Boys was higher than Tribal and Rural Boys.
- Height of Tribal Boys was lower than the Urban and Rural Boys.

Table 4.33

Descriptive Statistics of variable weight of 11 years Age Group Boys

S.NO	AREA	MEAN	Standard Divation
1	Rural	29	3.04
2	Tribal	25	3.85
3	Urban	32	3.99

Table 4.33 indicates the mean performance of **body weight** between Rural, Tribal and Urban **11 years** Boys as follows:

- Weight of Rural Boys was higher than Tribal Boys.
- Weight of Urban Boys was higher than Tribal and Rural Boys.
- Weight of Tribal Boys was lower than the Urban and Rural Boys.

Table 4.34

Descriptive Statistics of variable BMI of 11 years Age Group Boys

S.NO	AREA	MEAN	Standard Divation
1	Rural	16.96	2.06
2	Tribal	14.82	2.19
3	Urban	16.90	1.87

Table 4.34 indicates the mean performance of **Body mass index** between Rural, Tribal and Urban **11 years** Boys as follows:

- BMI of Rural Boys was higher than Tribal and Urban Boys.
- BMI of Urban Boys was higher than Tribal Boys.
- BMI of Tribal Boys was lower than the Urban and Rural Boys.

Table 4.35

Descriptive Statistics of variable Fat percentage of 11 years Age Group Boys

S.NO	AREA	MEAN	Standard Deviation
1	Rural	13.95	3.01
2	Tribal	11.16	3.17
3	Urban	13.15	3.16

Table 4.35 indicates the mean performance of **percentage Body fat** between Rural, Tribal and Urban **11 years** Boys as follows:

- % Body Fat of Rural Boys was higher than Tribal and Urban Boys.
- % Body Fat of Urban Boys was higher than Tribal Boys.
- % Body Fat of Tribal Boys was lower than the Urban and Rural Boys.

Table 4.36

Descriptive Statistics of variable Sit-ups of 11 years Age Group Boys

S.NO	AREA	MEAN	Standard Deviation
1	Rural	18	5.36
2	Tribal	14	7.36
3	Urban	11	5.82

Table 4.37 indicates the mean performance of **muscular endurance** between Rural, Tribal and Urban **11 years** Boys as follows:

- Muscular Endurance of Rural Boys was higher than Tribal and Urban Boys.
- Muscular Endurance of Urban Boys was lower than Tribal and Rural Boys.
- Muscular Endurance of Tribal Boys was higher than the Urban and lower than Rural Boys.

Table 4.37

Descriptive Statistics of variable Push-ups of 11 years Age Group Boys

S.NO	AREA	MEAN	Standard Deviation
1	Rural	13	4.85
2	Tribal	14	6.26
3	Urban	10	4.36

Table 4.38 indicates the mean performance of **muscular strength and endurance** between Rural, Tribal and Urban **11 years** Boys as follows:

- Muscular strength and Endurance of Rural Boys was higher than Urban and lower than Tribal Boys.
- Muscular strength and Endurance of Urban Boys was lower than Tribal and Rural Boys.
- Muscular strength and Endurance of Tribal Boys was higher than the Urban and Rural Boys.

Table 4.38

Descriptive Statistics of variable height of 12 years Age Group Boys

S.NO	AREA	MEAN	Standard Deviation
1	Rural	1.38	0.06
2	Tribal	1.31	0.07
3	Urban	1.40	0.06

Table 4.40 indicates the mean performance of **body height** between Rural, Tribal and Urban **12 years** Boys as follows:

- Body height of Rural Boys was higher than Tribal and lowers than Urban Boys.
- Body height of Urban Boys was higher than Tribal and Rural Boys.
- Body height of Tribal Boys was lower than the Urban and Rural Boys

Table 4.39

Descriptive Statistics of variable weight of 12 years Age Group Boys

S.NO	AREA	MEAN	Standard Deviation
1	Rural	33	4.27
2	Tribal	28	4.62
3	Urban	35	5.29

Table 4.41 indicates the mean performance of **body weight** between Rural, Tribal and Urban **12 years** Boys as follows:

- Body weight of Rural Boys was higher than Tribal and lowers than Urban Boys.
- Body weight of Urban Boys was higher than Tribal and Rural Boys.
- Body weight of Tribal Boys was lower than the Urban and Rural Boys

Table 4.40

Descriptive Statistics of variable BMI of 12 years Age Group Boys

S.NO	AREA	MEAN	Standard Deviation
1	Rural	17.25	2.25
2	Tribal	16.37	2.38
3	Urban	18.16	2.54

Table 4.42 indicates the mean performance of **BMI** between Rural, Tribal and Urban **12 years** Boys as follows:

- BMI of Rural Boys was higher than Tribal and lowers than Urban Boys.
- BMI of Urban Boys was higher than Tribal and Rural Boys.
- BMI of Tribal Boys was lower than the Urban and Rural Boys

Table 4.41

Descriptive Statistics of variable Sit-ups of 12 years Age Group Boys

S.NO	AREA	MEAN	Standard Deviation
1	Rural	21	5.22
2	Tribal	17	6.69
3	Urban	12	6.34

Table 4.45 indicates the mean performance of **muscular endurance** between Rural, Tribal and Urban **12 years** Boys as follows:

- Muscular Endurance of Rural Boys was higher than Tribal and UrbanBoys.
- Muscular Endurance of Urban Boys was lower than Rural and TribalBoys.
- Muscular Endurance of Tribal Boys was higher than the Urban andlower than Rural Boys

Table 4.42

Descriptive Statistics of variable Push-ups of 12 years Age Group Boys

S.NO	AREA	MEAN	Standard Deviation
1	Rural	15	4.53
2	Tribal	16	5.19
3	Urban	10	4.67

Table 4.46 indicates the mean performance of **muscular strength andendurance** between Rural, Tribal and Urban **12 years** Boys as follows:

- Muscular strength and Endurance of Rural Boys was lower than Tribal and higher than Urban Boys.
- Muscular strength and Endurance of Urban Boys was lower than Rural and Tribal Boys.
- Muscular strength and Endurance of Tribal Boys was higher than the Urban and Rural Boys

➤ **Results of the study**

Results of the Normative Study

From the normative study the following findings were obtained.

- From the results presented above, It is observed from the tables 4.32, 4.33, 4.34, 4.35, 4.36, 4.37, 4.38, 4.39, 4.40, 4.41 and 4.42 that the distribution of the scores in body height, bodyweight, percentage body fat, BMI, Push-ups and Sit-ups of the subjects of age 11 years, 12 years, were mostly positively skewed and Platykurtic in nature. The score obtained from Physical Fitness test represents normal distribution. Also graphical structure of data shows Bell shape. The Percentile norms of each test-item were developed and established in this piece of research especially for the boys of the schools of Bandipora district, aged 11 to 12 years boys.
- Age-wise Comparison of Performance in Health Related Physical Fitness Components i.e. body height, body weight, BMI, % body fat, , Muscular
- Strength and Muscular Endurance and Flexibility of the subjects' ages 11 years, 12 years are significantly different at the 0.05 level and the hypothesis (Ho1: There is no significant difference in Health Related Physical fitness components of Boys of each age group between 11 to 12 years from school in Bandipora district) is rejected.
- Area-wise Comparison i.e. Rural, Tribal and Urban of Performance in Health Related Physical Fitness Components i.e. body height, body weight, BMI, % body fat, Muscular Strength and, Muscular Endurance and of the subjects' ages 11 years, 12 years are significantly different at the 0.05 level and the hypothesis (Ho1: There is no significant difference in Health Related Physical fitness components of Boys of each age group between 11 to 12 years from school in Bandipora district) is rejected.

➤ **Results of Area wise Comparison i.e. Rural, Tribal and Urban**

I. The result revealed that, Table 4.32 to 4.40 of Age group 11 years, variable wise descriptive analysis of Urban, Rural and Tribal area the mean performance of Height and weight in Urban area was higher than other area i.e. Rural and Tribal BMI, % body fat, muscular endurance and Muscular strength and Endurance in Tribal area was higher than other area i.e. Rural and Urban

II. Table 4.41 to 4.48 of Age group 12 years, variable wise descriptive analysis of Urban, Rural and Tribal area the mean performance of Height, weight, BMI and % body fat in Urban area was higher than other area i.e. Rural and Tribal Muscular endurance in Rural area was higher than other area i.e. Urban and Tribal Muscular strength and Endurance in Tribal area was higher than other area i.e. Rural and Urban

III. Table 4.49 to 4.56 of Age group 13 years, variable wise descriptive analysis of Urban, Rural and Tribal area the mean performance of Height, weight and BMI in Urban area was higher than other area i.e. Rural and Tribal % body fat, Muscular endurance and Flexibility in Rural area was higher than other area i.e. Urban and Tribal Muscular strength and Endurance in Tribal area was higher than other area i.e. Rural and Urban.

Discussion on findings:

Fitness level of the society has gone down because of technological advancement and human body has become a depot of various ailments either physical or emotional. Advancement of science and technology has made our life very comfortable and we have become habitual to be in the state of more comfort. Due to such comfortable life the physical activity and physical fitness has decreased tremendously. This results into a low fit society with poor state of physical health. Such society must be made aware of the physical health and physical fitness. Considering this

concept, the countries of the West have been taking precautionary measures in introducing physical educational activities intensively right from the grass root level of education i.e., from pre-primary level.

Physical fitness means the capacity of an individual to perform a given task involving muscular effort. Efficiently working lungs and heart, general alertness, muscular strength, muscular endurance and flexibility of the body and body fat are Test signs of physical fitness. Program designed to help individuals to attain fitness are offered in schools. But adequate attention has not been paid with respect to the assessment and evaluation of the physical fitness status of the school students. The need to formulate norms for health related physical fitness test of the school students resulted into the present investigation. Recent trends in school physical inactivity among school Boys often carry a negative social stigma that declines physical fitness and affects overall health. The investigator has formulated two major hypotheses to evaluate norms. It is amazing that there are no suitable norms for Health Related Physical Fitness variables especially for schoolchildren in Nasik district. This study, therefore, has been undertaken. The investigator formulated a useful battery of standardized physical fitness test items namely body height, body weight, BMI, body fat percent, sit-ups, push-ups, for 11 to 12 year school Boys in Rural , Tribal and Urban area in Bandipora district. Head ministered the said test battery to 200 subjects from 06 secondary schools located in three different area i.e. Rural, Tribal and Urban of Bandipora district. The subjects were selected randomly. A group of competent and qualified officials under the supervision and control of the investigator administered the tests. The group of officials was tested for their reliability. The reliability of the test items was checked statistical with the help of co-efficient of correlation. The pilot study was undertaken by researcher to observe reliability of data in which he decided to check subject's reliability. Tester's reliability. The response of the subjects to assess the feasibility of selected topic, financial implications, time consumption, equipment required and plays ground available.

The criterion measures chosen to test the hypothesis was Body-weight, measured with the help of weighing machine nearest to 0.5 kg. Standing body height was measured nearest to 0.5 cm by using a vertical scale fixed with the help of field event and scores were recorded in nearest 0.5 meter. % body-fat was measured by using digital Omron fat monitor (HBF-302) and the score was recorded directly in (%) percentage. Muscular endurance of abdominal muscles was measured by using Sit-ups test and score was recorded in number of sit up performed in one minute. Muscular strength and endurance of arms muscles was measured by using push-ups test and score was recorded in number of push-ups performed in one minute. The topic of this research seems to be justified and thought desirable to undertake for study with the following objectives.

- To measure the *health-related physical fitness components* of 11 to 12 years old school going boys from Rural, Tribal, and Urban school in Bandipora District.
- To prepare the appropriate norms of health related physical fitness components (Body Height, Muscular Strength & Endurance of 11 to 12 years old school going boys.
- To compare (age, Rural, Tribal and Urban) performance of the subjects in health related physical fitness components.

References:

1. AAHPERD. (1984). *Health related physical fitness: technical manual*. Washington, D. C.: American Alliance of Health, Physical Education, Recreation, and Dance.
2. Ajmer Singh, S. R. Gangopadhyay, (1991). *Trends and practices in physical education in India*. New Delhi: Friends Publications (India) P. 143. American College of Sports & Medicine (ACSM), (2005). *Health related physical fitness assessment manual*. Baltimore: Lippincott Williams & Wilkins, P. 3
4. APPHER, (1962). *American Association of Health Physical Education and Recreation, Youth Fitness Test Manual*. Washington D. C. : P.3-25
5. Athicha Pillai, (1991). *Computation of norms for 12 minutes run and walks among school boys*. Karaikudi: Unpublished Doctoral thesis, Alagappa University.
6. B. Dwyer, and E. Davis, (2005). *ACSM's Health Related Physical Fitness Assessment Manual*. Sydney: P.91.
7. Barrow, H.M. (1983) *Principles of physical education*. Philadelphia: Lea and Feiber. Pp.77-80.
8. Barry Craig Andrew, (1976). *Physical fitness levels of Canadian and South African School Boys*. Dissertation Abstract International 36:P. 9
9. Boone Herman, (1967). *A Comparison of Physical Fitness Level of Urban and Rural Boys*. Completed Research in Health Physical Education and Recreation 10:P.86
10. Bovet, Pascal, Auguste, Robert, Burdette, Hillary, (2008). Strong inverse association between physical fitness and overweight in adolescents: a large school-based survey. Retrieved on April 15, 2009 from http://www.find-healtharticles.com/rec_pub_17550617-strong-inverse-association-physical-fitness-overweight-adolescents.htm
11. C. B. Corbin, R. P. Pangrazi, (1992). Are American children and youth fit? Retrieved on April 15, 2009 from www.ncbi.nlm.nih.gov.
12. C. Gratton and I. Jones, (2004). *Research method for sport studies*. London: Routledge Group. P.93
13. Camaione David (1993). *Fitness management*. Brown communications. p.3.
14. Chatterjee, Mandal, Das, (1993). *Physical and motor fitness level of Indian school-going boys*. Retrieved on April 1, 2009 from www.find-healtharticles.com
15. Chung, Joanne WY, Chung, Louisa MY, Chen, Bob, (2009). The Impact of Lifestyle on the Physical Fitness of Primary School Children. Retrieved on April 15, 2009 from <http://www.ingentaconnect.com>
16. Cromwell, Johnson and Nelson, (1960). *Practical Measurement of Evaluation in Physical Education*. Delhi : Surjeet Publication, Kamala Nager, P. 8
17. D. Allen Phillips, James Hornak, (1979). *Measurement and evaluation in physical education*. Canada: John Wiley & Sons, Inc., Pp.215, 219.
18. D. Cooley, and L. McNaughton, (1999). *Aerobic fitness of Tasmanian secondary school children using the 20-m shuttle run test*. Perceptual Motor Skills, 88, 1, P.188-198.
19. D. J. Macfarlane, G. R. Tomkinson, (2007). Evolution and variability in fitness test performance of Asian children and adolescents. Retrieved on April 10, 2009 from www.Med