PRINT ISSN 2319-1775 e-ISSN 2320-7876, www.ijfans.org
Volume.11, Issue13, Nov- 2022

Research Paper
UGC CARE Listed (Group -I) Journal

A Study on Health-related Fitness Components among Students of Kendriya Vidyalayas in Karnataka

Manjunatha E[1] , Dr. S M Prakash[2]
[1]Research Scholar, Department of PG Studies and Research in Physical Education, Kuvempu University, Shankaraghatta577451, Shivamogga Dist. Karnataka State.
[2]Research Supervisor, Department of PG Studies and Research in Physical Education, Kuvempu University, Shankaraghatta-577 451, Shivamogga Dist. Karnataka State.
Email- manjunathaeyadav@gmail.com

Abstracts
` The purpose of the study was to compare the health-related fitness levels between two clusters of Kendriya Vidyalaya (KV) high schools, viz. Hassan and Mangalore clusters. sports activities and physical education are almost equal in all KV schools, but there may be differences related to demographic, food habits, culture, etc. There are also the probable significant differences in the health-related fitness levels of students in relation to their places of residences. The health-related fitness variables selected for study were flexibility, muscular strength, muscular endurance. cardiovascular endurance and body composition (BMI). To achieve the purpose of the study, data was collected from two hundred students, one hundred from each cluster. The age of the subjects ranged from 14 to 18 years. 'Sit and-reach' test, 'two-kilometre walk-and-run' test, 'partial curl-up' test, push up and BMI measurements were taken as variables to test fitness components. To know the mean difference between groups, t-test was computed. The results revealed that there is a significant difference in the health-related fitness levels. The Hassan students were superior in height, flexibility whereas Mangalore students were superior in muscular strength, muscular endurance, cardio-vascular endurance, and BMI. It was concluded that the food habits and lifestyle of two different cities could be the major cause of the physical fitness difference between the students in different clusters.
Key words: Health-related fitness, test, Kendriya Vidyalaya, BMI.

Introduction

As we know, education, in particular school education, aims at the holistic development of children. It provides students with ample opportunities to grow and develop. Develop motor abilities like strength, speed, endurance, coordination, flexibility, agility, and balance, as they are important indicators of Childrens' health and fitness. Regular physical activity prevents or limits weight gain and increases the body mass index (BMI). There is a lot of health benefits to physical fitness. Ideal fitness is required to prevent injuries, maintain a stable posture, etc. However, physical fitness cannot be achieved without regular physical activity. Physical fitness is an important dimension of the wellness programme. Physical fitness is one of the core preconditions of health. We cannot imagine a person being healthy without being physically fit. Physical fitness, therefore, needs to be appreciated to fullest extent. A fit and healthy person will live longer, be more productive at work and school, and generally contribute more to the country's growth and development. With an increasing prevalence of heart and other cardiovascular diseases as well as a wide range of health concerns, the importance of leading healthy lives that include a well-balanced diet and adequate fitness regime that embodies healthy lifestyle habits is imperative. Government of India, Ministry of Youth Affairs & Sports, Department of Sports. Exposure draft on the National Physical Fitness Programme for School Children (2012). Physical fitness is the ability to perform moderate-to-vigorous levels of physical activity without undue fatigue and the capability of maintaining such ability throughout life. (American College of Sports Medicine). The World Health Organisation (WHO) has set a target that every person in the world should become health conscious, health for all, physical education programmes, sports for all etc... are some of the timeline projects suggested by it. Today, fitness is needed for two reasons. Firstly, it is needed for taking part in competitive sports participation, and secondly, it is required for maintaining good health. The expert committee of the World Health Organisation [1981] described physical fitness as the ability to undertake muscular work satisfactorily. Physical fitness is the capacity to engage in, reasonably well, various forms of physical activity without being injured. unduly tired and in-duds qualities are important to the individual's health and well-being. Casprsen and Powell (1979) believed that 'to develop and maintain physical fitness requires vigorous efforts by those who are physically fit because they look better, feel better, and possess the good health necessary for a happy and full life. The possession of optimal strength, muscle tone, and endurance not only for emergencies but for everyday living can be the key to dynamic health'.

[1]Research Scholar, Department of PG Studies and Research in Physical Education, Kuvempu University, Shankaraghatta577451, Shivamogga Dist. Karnataka State.
Mob.No9980701746Email.manjunathaeyadav@gmail.com
[2]Research Supervisor, Department of PG Studies and Research in Physical Education, Kuvempu University, Shankaraghatta-577 451, Shivamogga Dist. Karnataka State. Mob. No9448260774, Email.yesempee@gmail.com

Tremblay, Lariviere, and Lambert (2012) observed that promoting healthy physical activity (PA) behaviours in children between the ages of 0 and 5 years has immediate impacts on the health and well-being of children and serves as a powerful strategy to prevent or minimise the occurrence of chronic diseases in later life. Yadav (2012) compared the boys of different schools' physical fitness. They found significant differences in health-related physical fitness among boys studying at different schools. Guedes, et. al., (2012) wanted to investigate whether health related physical fitness is associated with selected sociodemographic and behavioural factors in Brazilian school children. Results reveals that the sociodemographic and behavioural factors significantly associated with performance, age and socioeconomic class, were negatively associated with performance on all physical tests, with approximately twice the chance of meeting the health standards than those aged 15 years and from more privileged families, specifically in the push-up (OR = 2.40; 95% CI 2.01-2.82) and Pacer (OR = 2.18; 95% CI 1.84-2.54) tests.

The Kendriya Vidyalaya system is a unique experimental system of school education in India. Kendriya Vidyalaya Sangathan is an autonomous body functioning under the Ministry of Human Resource Development, Government of India. Since their inception in 1965, the Kendriya Vidyalaya's (Central Schools) have come to be known as centres of excellence in the field of school education, promoting national integration and a sense of India among the children while ensuring their total personality development and academic excellence. KVS, Bengaluru Region is one of the 25 regions that connects 52 Kendriya Vidyalaya's (including the 2nd shift in KV Malleswaram, Bengaluru) dotted on the landscape of Karnataka. These Vidyalaya's are located in urban areas, and they provide quality, progressive education The schools admit the children of the employees of the Department of Defence, central government organisations, central government autonomous bodies, and state government offices. Children from the private sector can also be admitted, subject to the availability of vacancies (https://robangalore.kvs.gov.in/kvs-region-information, 2023).

Rationale of the Study

Existing data indicates that preventing and managing teenage overweight and obesity may be one of the most successful methods to prevent childhood obesity. The recognition of factors of risk that contribute to obesity's increasing prevalence is a critical step in its prevention and control. Relevant research in this area is limited in India, and the data available is often inconsistent and based on a statistically not enough sample size, making it difficult to assess the prevalence of overweight and obesity at the state level in relation to a wide age range of children (14-18 years). During looking for relevant literature for the proposed issue, not a single study revealing the facts regarding health-related physical fitness among pupils in the Hasan cluster and Mangalore cluster of the Kendriya Vidyalaya Bengaluru region of Karnataka was discovered. As a result, a study on health-related physical fitness among schoolchildren in the Hasan and Mangalore clusters of the Kendriya Vidyalaya Bengaluru region of Karnataka was planned.

Objectives of The Study

1. To examine the health-related physical fitness between boys in the Hasan and Mangalore clusters of the Kendriya Vidyalaya Bengaluru region of Karnataka
2. To compare the health-related physical fitness between the different clusters of the Bengaluru region

Hypotheses of the Study : Based on different research findings, professional's opinion and researcher's own understanding of the problem, following hypotheses were formulated:

1. It was speculated that there would be no significant difference in health-related physical fitness between boys in the Hasan and Mangalore clusters of the Kendriya Vidyalaya Bengaluru region.

Methodology

The purpose of this study was to compare the selected health-related physical fitness components between the Hasan cluster and Mangalore cluster in the Kendriya Vidyalaya Bengaluru region, aged 14 to 18 years old. To achieve the purpose of the study, data was collected from two hundred students, one hundred students from each cluster, who have represented their respective states at the national level. Subjects were randomly selected. The subjects ranged in age from 14 to 18 years. The health-related fitness components considered for this study are limited to flexibility, muscular strength, muscular endurance, cardio-vascular endurance, and body composition. The variables selected and the criterion measures are given in table 1.

Table 1. The Variables And Criterion Measures

Sl. No	Fitness Component	Test	Unit of measurement
1	Flexibility	Sit and Reach Test	Centimetres
2	Muscular Strength	Partial curl-up Test	Completed Numbers
3	Muscular Endurance	Push-ups	Completed Numbers
4	Cardiovascular Endurance	2km walk/Run	Minutes
5	Body Composition	BMI	Percentage

The results and findings of study The data was analysed by using SPSS statistical software. Mean, standard deviation and students 't-test' were computed to find the significant difference between the two groups. The level of significance was set at 0.05 level. The weight and height results of Bangalore Region KV schools' data is given in table 2.

Table 2. Weight And Height Of Hasan And Mangalore Clusters Kendriya Vidyalaya Students

	1=Hasan,2=Mangalore	N	Mean	Standard Deviation	't' value
Weight	1	100	55.43	4.84	-1.18
	2	100	56.93	3.44	
Height	1	100	160.64	10.40	.302
	2	100	160.21	7.77	

Table Value is 2.01 Significant at 0.05 level.

The weight and height of Hasan and Mangalore Cluster of Kendriya Vidyalaya students are shown in the above table. along with their mean value, standard deviation, and 't' value. According to the findings, there no significant difference in weight and height between Kendriya Vidyalaya pupils of both clusters. The flexibility data is revealed in table 3.

Table 3. The Flexibility Of Hasan And Mangalore Clusters Kendriya Vidyalaya Students

Sl. No.	Bengaluru region Clusters	N	Mean	Standard deviation	't' value
1	Hasan	100	22.64	4.84	3.04
2	Mangalore	100	20.93	3.47	

Table Value is 2.01 Significant at 0.05 level.

The analysis of table-3 shows that there is significant difference in flexibility between Kendriya Vidyalaya students in both clusters. Hasan cluster students were better than Mangalore cluster students in flexibility.

Table-4 **The Muscular Strength Of Bengaluru Region Hasan And Mangalore Clusters Kendriya Vidyalaya Students**

Sl. No.	Bengaluru region Clusters	N	Mean	Standard deviation	't' value
1	Hasan	100	20.67	5.79	-2.47
2	Mangalore	100	22.61	3.44	

Table Value is 2.01 Significant at 0.05 level.

The table 4 shows that mean value, standard deviation, and 't' value of Hasan and Mangalore clusters Kendriya Vidyalaya students' muscular strength. The result showed that there is a significant difference in muscular strength between Kendriya Vidyalaya students in both clusters. Mangalore cluster students showed a good performance in muscular strength compared to Hasan cluster students.

Table-5 The Muscular Endurance Of Kendriya Vidyalaya Students In Hasan And Mangalore Clusters

Sl. No.	Bengaluru region Clusters	N	Mean	Standard deviation	't' value
1	Hasan	100	21.74	6.73	-2.06
2	Mangalore	100	23.56	6.53	

Table Value is 2.01 Significant at 0.05 level.

The above table-5 shows the mean value, standard deviation, and 't' value of Hasan and Mangalore cluster Kendriya Vidyalaya students' muscular strength. The result showed that there is a significant difference in muscular endurance between Kendriya Vidyalaya students in both clusters. Mangalore cluster students were better at muscular endurance compared to Hsana cluster students.

Table-6 The Cardiovascular Endurance Of Kendriya Vidyalaya Students In Bengaluru Region Hasan And Mangalore Clusters

Sl. No.	Bengaluru region Clusters	N	Mean	Standard deviation	't' value
1	Hasan	100	18.81	2.38	-3.42
2	Mangalore	100	19.93	2.64	

Table Value is 2.01 Significant at 0.05 level. The table 6 shows the mean value, standard deviation, and 't' value of Hasan and Mangalore clusters Kendriya Vidyalaya students' cardiovascular endurance. The result showed that there is a significant difference in cardiovascular endurance between Kendriya Vidyalaya students in both clusters. Mangalore cluster students were better at muscular endurance compared to Hasan cluster students.

Table-7 The Bmi Of Kendriya Vidyalayastudents In Bengaluru Region Hasan And Mangalore Clusters

Sl. No.	Bengaluru region Clusters	N	Mean	Standard deviation	't' value
1	Hasan	100	21.52	3.64	-1.48
2	Mangalore	100	22.87	2.87	

Table Value is 2.01 Significant at 0.05 level. The table 7 shows the mean value, standard deviation and 't' value of Hasan and Mangalore clusters Kendriya Vidyalaya students' BMI. The results shown that, there is no significant difference in BMI of Kendriya Vidyalaya students of Hasan and Mangalore clusters.

Conclusions: Based on the results, it can be concluded that Mangalore cluster students have better muscular endurance and cardiovascular endurance than Hasan cluster students. Hasan cluster students have better flexibility and muscular strength than Mangalore cluster boys. However, Mangalore cluster students get good nutrition from food, mainly calcium. and coastal areas also have a lot of benefits because you get a lot of vitamin D, and here the lifestyle is also different from other districts of Karnataka. Here, there is a strong sports culture, educational foundation, and a strong student body. and here many central employees are there in comparison to the Hasan cluster. In the Hasan cluster, most students come from middle-class families, so there is no high abundance of sports culture when compared with the Mangalore cluster.

Recommendations

The investigation is useful to physical educationist and teachers to figure out the issues of students and help them to manage these in a positive way. As per the results of this research, it is recommended.

1. It is suggested that a comparative report might be conducted at the national level, including male and female subjects with various demographics.
2. Provide guidance to children and teenagers, as well as their parents, guardians, instructors, and health experts, on healthy body size, physical activity, rest practises, and the right utilisation of screen-based stimulation.
3. Ensure that adequate facilities for physical activity during recreational time are available on campus and in the open spaces for every student.
4. To prevent obesity, a weight management programme comprising a healthy way of life might be introduced in schools.
5. Conduct further investigations on the same age groups in the different clusters of the Kendriya Vidyalayas Bengaluru region in Karnataka
6. Conduct further investigations on the same age groups in schools in Karnataka.

References

1. Ashok Kumar, P. Salian (2020) A comparative study on physical fitness among rural and urban male students of Kodagu district, international journal for innovative research in multidisciplinary fields, issn: 2455-0620, v-6, 86–87.
2. Blair, S. N., & Connelly, J. C. (1996). How much physical activity should we do? The case for moderate amounts and intensities of physical activity.
3. Boone Herman (1967). A Comparison of Physical Fitness Levels of Urban and Rural Boys.Completed Research in Health, Physical Education, and Recreation 10:P.86.
4. Camaione, David (1993). Fitness management.Brown Communications, pp.3.
5. Guedes, D.P., Neto, J.M., Lopes, V.P., & Silva, A.J. (2012). Health-related physical fitness is associated with selected socio-demographic and behavioural factors in Brazilian schoolchildren. Journal of Physical Education Activity and Health, 9, 473–480.
6. https://robangalore.kvs.gov.in/kvs-region-information, 2023.
7. Suresh Kumar (2019)., Comparative study of physical fitness variables between the private and government schoolboys., International Journal of Physiology, Nutrition, and Physical Education 2019; 4(1): 2518–2519.
8. Tremblay, L., Boudreau-Larivière, C., & Cimon-Lambert, K. (2012). Promoting physical activity in Pre-schoolers: A review of the guidelines, barriers, and facilitators for the implementation of policies and practises. Canadian Psychology, 53(4), 280–2.
9. Yadav, S.K. (2012) Health-related physical fitness among boys studying in different schools in Mathura Indian Journal of Research, 1(10), 48–50.