COMPARISON OF SELECTED HEALTH RELATED PHYSICAL FITNESS COPMONENTS AMONG THE STUDENTS IN UTTRAKHAND STATE

Vinod Kumar[1] and Dr. Hiralal Yadav[2]
[1]Research Scholar Department of Physical Education H.N.B.G.U Srinagar Garhwal.
[2]Assistant Prof. Department of Physical Education H.N.B.G.U Srinagar Garhwal.

ABSTRACTS

The purpose of this study was to compare the selected Health Related Physical Fitness components of the senior secondary level students of Jawahar Navodaya Vidyalaya (JNV) and Government Model Schools (GMS) of Kumaun region in Uttarakhand. The researchers selected 80 male students (40 from JNV & 40 from GMS) by using stratified random sampling technique.. For the assessment of selected Health related Physical Fitness components the researchers conducted tests on different selected components between the senior secondary level students of JNV & GMS of Kumaun region in Uttarakhand. The researchers conducted 12 minute run/walk test for cardiovascular Endurance, Sit & Reach test for Flexibility and Skin fold measurement test for Body Composition. The data was statistically analyzed with the help of SPSS version 22, descriptive and inferential statistics were applied for interpretation of research data. The results of this study revealed that there was significant difference in selected Health Related Physical Fitness variable i.e. Cardiovascular Endurance, the students of Government Model School had better Cardiovascular Endurance and there was no significant difference found in selected Health Related Physical Fitness variable i.e. Body Composition and Flexibility.

KEY WORDS *: Health Related Physical Fitness, Jawahar Navodaya Vidyalaya (JNV) & Government Model School (GMS)*

INTRODUCTION

Our current era is one of the competition era. Today, everyone struggles to maintain optimal physical and mental health in order to handle the various obstacles of daily life and persevere in the face of hardship. Anyone who is physically fit can fend off their opponents. Since it acts as the platform for all of a person's successful endeavours, the body is the basis of human life. All aspects of existence depend on the body and mind working together. Humans were created with the ability to do a wide range of tasks. A person's physical, mental, and social parts of life will suffer if they are not physically active. The need for physical activity is essential for good health.

According to Webster**,** "Health is the condition of being sound in body, mind or spirit, especially freedom from physical disease or pain.

Fitness is defined as being physically healthy and fit, what it means to be fit is to be in good physical and mental health, which impacts all aspects of health. A balanced diet and regular exercise are

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the basic prerequisites for optimal fitness. Fitness is the ability of one's bodily systems to work well together, promoting good health and efficient daily operation.

According to the Centers for Disease Control and Prevention (CDCP), "Physical Fitness is defined as 'the ability to carry out daily tasks with vigour and alertness, without undue fatigue, and with ample energy to enjoy leisure-time pursuits and respond to emergencies."

Physical activity should be a regular, methodical part of a child's development. Children improve their physical fitness and health via regular and organised physical activity. The idea of physical fitness predates the existence of humans. Physical fitness has been viewed throughout human history as being crucial to daily existence. For their physical existence, the ancient people relied mostly on their own power, vigour, and vitality. This required mastery of several fundamental abilities, such as strength, speed, endurance, agility for running, jumping, and climbing, as well as other abilities used in the hunt for food. Across all genders, ages, and cultural groupings, adult physical fitness declines. In addition to promoting physical fitness, the physical education curriculum aims to promote the best possible biological health, mental toughness, and emotional stability.

As they enter adolescence in India today, kids are finding it much harder to stay active, and obesity among kids is on the rise. These results show that the present physical education curricula are insufficient to encourage lifetime physical fitness. These results have made physical educators aware of the necessity for a curriculum modification that would result in attitude development toward lifetime exercise behaviour with a focus on health-related physical fitness. Individual definitions of physical fitness may differ, but most experts concur that it consists of five fundamental elements: heart and lungs health, strength, endurance, and agility or flexibility.

How effectively the body performs in each of the components of physical fitness as a whole can be used to determine the health-related physical fitness. Strength, flexibility, muscular endurance, cardiovascular endurance, and body composition.

METHODOLOGY

For the purpose of this study 40 male students from JNV & 40 male students from GMS were selected as subjects by using stratified sampling technique. The selected subjects were age ranged between 15 to 17 years and classes of 11th & 12th. The data was collected by conducting tests on selected Health Related Physical Fitness Components.

The data was analyzed with the help of SPSS version 22, by using various descriptive and inferential statistics.

RESULTS AND DISCUSSION

The present section is dedicated to the presentation of results along with the discussion of present study.

Table-1
Descriptive statistics of Cardiovascular Endurance for male students of Jawahar Navodaya Vidyalaya (JNV) and Government Model Schools (GMS) in Kumaun Region of Uttarakhand state.

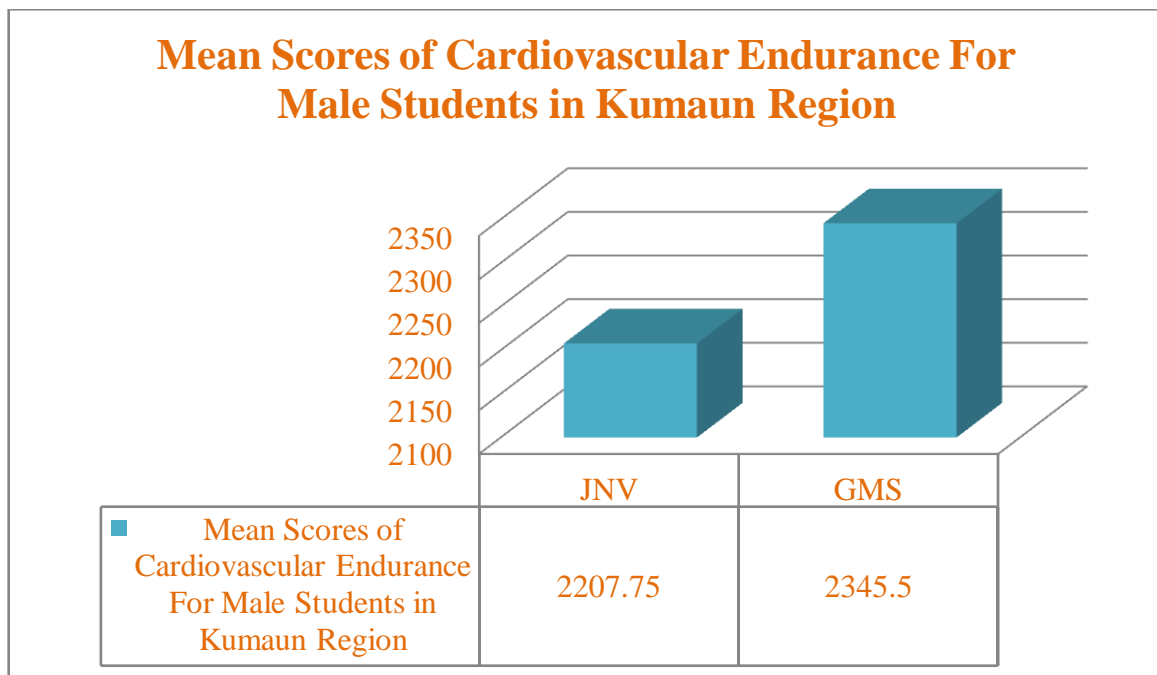| Schools	N	Mean	Std. Deviation	Minimum	Maximum	Std. Error
JNV	40	2207.75	273.69	1800	3200	55.78
GMS	40	2345.50	222.59	1640	2800	

It is evident from Table-1 that the Mean and S.D. of Cardiovascular Endurance for Male students of senior secondary level of Jawahar Navodaya Vidyalaya (JNV) and Government Model Schools (GMS) in Kumaun Region of Uttarakhand state is 2207.75±273.69 and 2345.50±222.59 respectively.

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Table-2

Comparison of Cardiovascular Endurance for Male students of Jawahar Navodaya Vidyalaya (JNV) and Government Model Schools (GMS) in Kumaun Region of Uttarakhand state.

Schools	N	Mean	St. D	T-Value	Df	P-Value
JNV	40	2207.75	273.69	-2.470	78	0.016
GMS	40	2345.50	222.59			

Tab t Value is 0.05 (78) = 1.664

From Table-2 it is indicated that the t-value is -2.470 which is significant at 0.05 level of significance with 78 degree of freedom (p-value = .016). It shows that the Mean scores of Male students of Jawahar Navodaya Vidyalaya (JNV) and Government Model Schools (GMS) in Kumaun Region of Uttarakhand state differ significantly and the mean score of Cardiovascular Endurance of GMS students (2345.50) is higher than that of JNV students (2207.75).

Mean Scores of Cardiovascular Endurance For Male Students in Kumaun Region

	JNV	GMS
Mean Scores of Cardiovascular Endurance For Male Students in Kumaun Region	2207.75	2345.5

FIGURE I - MEAN DIFFERENCE OF CARDIOVASCULAR ENDURANCE FOR MALE STUDENTS OF KUMAUN REGION

Table-3

Descriptive statistics on Body Composition for male students of Jawahar Navodaya Vidyalaya (JNV) and Government Model Schools (GMS) in Kumaun Region of Uttarakhand state.

| Schools	N	Mean	Std. Deviation	Minimum	Maximum	Std. Error
JNV	40	17.62	2.00	14.10	21.20	0.418
GMS	40	16.84	1.73	14.20	21.20	

It is evident From Table- 9 that the Mean and S.D. of Body Composition for Male students of senior secondary level of Jawahar Navodaya Vidyalaya (JNV) and Government Model Schools (GMS) in Kumaun Region of Uttarakhand state is 17.62±2.00 and 16.84±1.73 respectively.

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Table-4
Comparison of Body Composition for Male students of Jawahar Navodaya Vidyalaya (JNV) and Government Model Schools (GMS) in Kumaun Region of Uttarakhand state.

Schools	N	Mean	St. D	T-Value	Df	P-Value
JNV	40	17.62	2.00	1.863	78	0.418
GMS	40	16.84	1.73			

Tab t Value is 0.05 (78) = 1.664

From Table-10 it is indicated that the t-value is 1.863 which is not significant at 0.05 level of significance with 78 degree of freedom (p-value =0.418). It shows that the Mean scores of Body Composition of Male students of Jawahar Navodaya Vidyalaya (JNV) and Government Model Schools (GMS) in Kumaun Region of Uttarakhand state do not differ significantly. However the mean score of Body Composition of JNV students (17.62) is higher than GMS students (16.84).
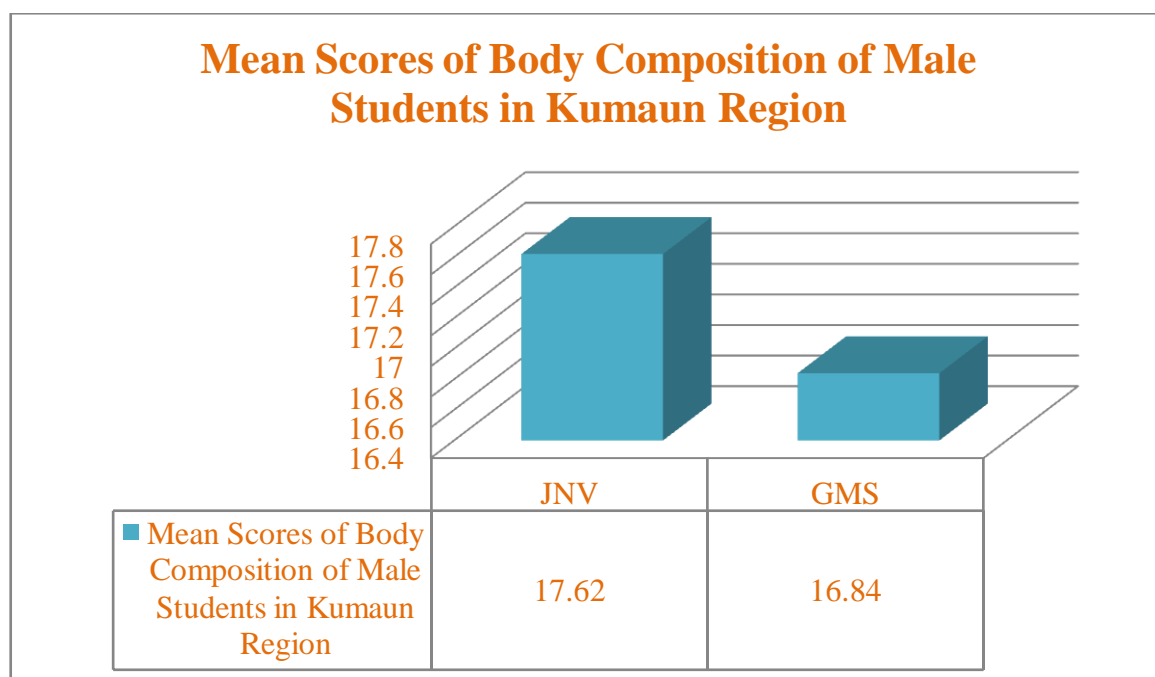
FIGURE XVII –
MEAN DIFFERENCE OF FLEXIBILITY FOR MALE STUDENTS OF KUMAUN REGION

Table-5
Descriptive statistics of Flexibility for male students of Jawahar Navodaya Vidyalaya (JNV) and Government Model Schools (GMS) in Kumaun Region of Uttarakhand state.

| Schools	N	Mean	Std. Deviation	Minimum	Maximum	Std. Error
JNV	40	31.11	7.73	12	47	1.76
GMS	40	31.91	8.06	17	48	

It is evident from Table-7 that the Mean and S.D. of Flexibility for Male students of senior secondary level of Jawahar Navodaya Vidyalaya (JNV) and Government Model Schools (GMS) in Kumaun Region of Uttarakhand state is 31.11±7.73 and 31.91±8.06 respectively.

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Table-6
Comparison of Flexibility for Male students for Jawahar Navodaya Vidyalaya (JNV) and Government Model Schools (GMS) in Kumaun Region of Uttarakhand state.

Schools	N	Mean	St. D	T-Value	Df	P-Value
JNV	40	31.11	7.73	-0.453	78	0.652
GMS	40	31.91	8.06			

Tab t Value is 0.05 (78) = 1.664

From Table-8 it is indicated that the t-value is -0.453 which is not significant at 0.05 level of significance with 78 degree of freedom (p-value= 0.652). It shows that the Mean scores of Flexibility of Male students of Jawahar Navodaya Vidyalaya (JNV) and Government Model Schools (GMS) in Kumaun Region of Uttarakhand state do not differ significantly and the mean scores of Flexibility of GMS students (31.91) & JNV students (31.11) is more or less similar.
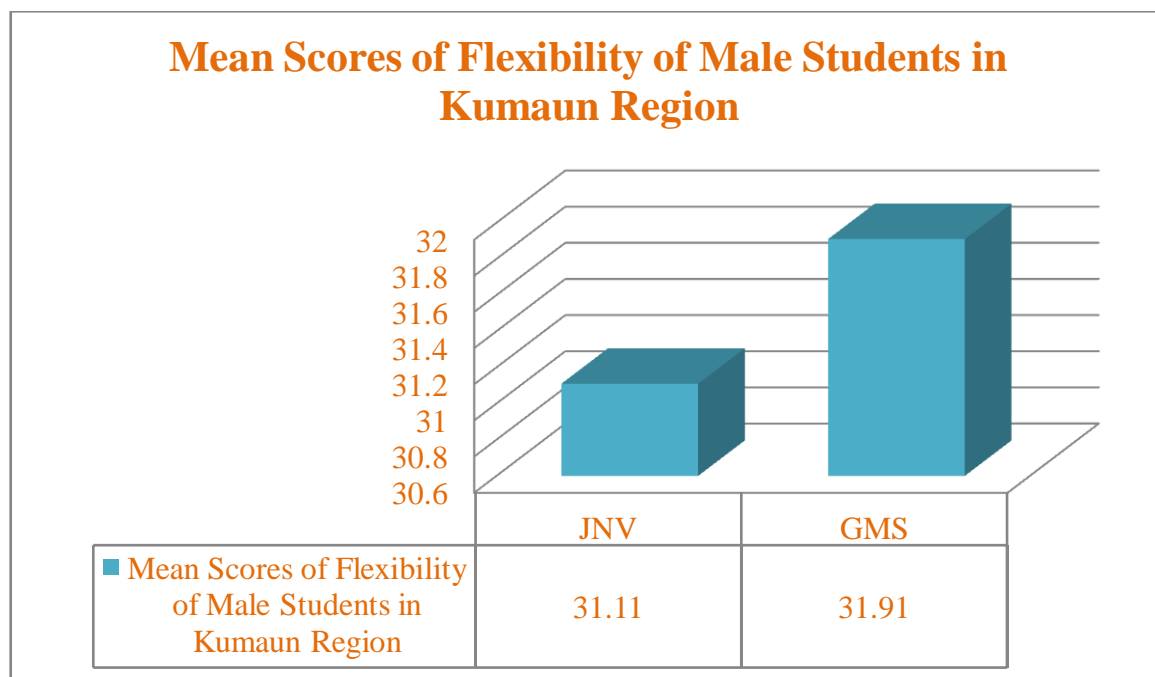
FIGURE IV –
MEAN DIFFERENCE OF FLEXIBILITY FOR MALE STUDENTS OF KUMAUN REGION

DISCUSSION OF FINDINGS-
The findings of the statistical analysis of the data revealed that senior secondary level male students at Jawahar Navodaya Vidyalaya and Government Model School in the Kumaun division of the state of Uttarakhand had significantly different levels of cardiovascular endurance. Since it is above the 0.05 level of significance, Cardiovascular Endurance's t-value (-2.470) is significant. The students of Government Model School had to go approximately 4 to 7 kilometres on foot each day to go to school and come from school while carrying a heavy bag on their shoulders, which adds to the statistical significance of the component of cardiovascular endurance for health-related physical fitness. Whereas the students of Jawahar Navodaya Vidyalaya do not walk as frequently as students of Government Model School. This may be one of the reason why the students of Government Model School in the Kumaun Region of Uttarakhand state have better cardiovascular endurance. Body Composition (1.863) and Flexibility (-.453) are two selected health-related physical fitness components where, there is no statistically significant difference since the values were lesser than the required value to be significant,

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this may be due to the students' growth and development patterns, So there were no significant differences found on Body Composition & Flexibility.

CONCLUSIONS

As a result of findings, on the selected Health Related Physical Fitness of the of Male senior secondary level students of Jawahar Navodaya Vidyalaya (JNV) and Government Model Schools (GMS) in Kumaun Region of Uttarakhand state, the following conclusion were found in this study-

1- There was a significant difference found on selected Health Related Physical Fitness component i.e. Cardiovascular Endurance between the students of Jawahar Navodaya Vidyalaya (JNV) and Government Model Schools (GMS). It revealed that the mean score of GMS students (2345.50) is significantly higher than that of JNV students (2207.75).
2- There was no significant difference found on selected Health Related Physical Fitness component i.e. Body Composition between the students of JNV and GMS. However it revealed the mean score of JNV students (17.62) is higher than GMS students (16.84).
3- There was no significant difference found on selected Health Related Physical Fitness component i.e. Flexibility between the students of JNV and GMS. It revealed that the mean score of JNV students (31.11) was more or less is equals to GMS students (31.91).

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