

# Relationship of Health Related Fitness to Academic Achievement of Degree College Boys of Mysore District

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**Abstract –** The purpose of the present study by the investigator was to analyse the relationship between health related fitness and academic achievement of Mysore District Degree College boys, sixty students were selected for the collection of data. Ranging in age between 18-25 was drawn as subjects. The health related fitness variables were in numerical form. There was a significant difference in the mean value of BMI and academic achievement. There were no significant differences in the mean value of academic achievement of Degree College of boys at Mysore District. The statistical analysis of data revealed that there was a significant difference in health related fitness and academic achievement of degree college boys of Mysore district.

**Keywords:** -Health related fitness, academic achievement and Degree College boys.

## INTRODUCTION

Health is wealth; health is real strength and bliss. This is a pivot upon which the well-being of the individual rotates, health is the base upon which the integrated personality with physical, mental, intellectual, moral, social and spiritual aspects stands. This is a means to spiritual development. According to Kamalesh<sup>1</sup>, today's education is not mentally a vast area of mental acrobatics but also a source of physical activity that leads to all round perfection of an individual, modern thinkers in education now a days, emphasize that the best individual is one who is physically fit, mentally sound and sharp, emotionally balanced and socially well adjusted.

Man is primarily distinguished from the lower forms of life because of his educable ability, he is gifted with intelligence and he always wants to improve, this improvement is possible through education.

Education is necessary for social and national development, this is because education is the process of human resources development, cultural transfer and wisdom establishment from the society. In educational process students should be provided only general knowledge but they should also be promoted to grow physically, emotionally, socially and intelligently.

Education in health can be traced to the dawn of civilization, there is inter dependence of various dimensions of health, physical, mental and social,

physical fitness is one of the aspects upon which the whole personality rotates. The ailing and aching body saps the zest of life; the ill feeling of sensations lessens the zest of activity, economic development and spiritual uplift.

According to World Health Organization health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.<sup>2</sup>

The fact is that health cannot be defined, it can only be described and even that is often a waste of words, so we shall be brief, the rich man's blessing, the poor man's wealth is a description of health that has come down from the seventeenth century, and again, it will serve as a prototype for all the rest. A person can have a healthy attitude towards life despite pain and physical handicaps, health and disease are not complete opposites as anatomy. There are degrees of each, there is no such thing as perfect health and it is not a valid or useful ideal towards which to work. Some existing or incipient physical or emotional flaws. The world's greatest thinkers have stressed upon the importance of physical fitness in living beings to ensure a procedure and meaningful life.

## STATEMENT OF THE PROBLEM

The purpose of the study was to find relationship of health related fitness to academic achievement of degree college boys of Mysore district.

## DELIMITATION

- The study was delimited to the students studying in Mysore District College students.
- The Study was delimited to a sample of sixty (n=60) students.
- The study was delimited to the students ranging in age between 18-25 years.
- The study was delimited to test the physical fitness variables such as cardiovascular strength, muscular strength, muscular flexibility and Body Mass Index (B.M.I.).

## LIMITATION

- Due to financial limitations and lack of equipment's the investigator administered four simple physical fitness tests to assess the attainment of minimal level of fitness; they are generally taken as health oriented fitness tests.
- Academic achievement was computed by enquiring the subjects performance in the board and universities examinations, the versions of the subjects was taken as true.
- The study was conducted on sixty male and female students of selected two colleges in Mysore district.

## HYPOTHESIS

There may be significant relationship between health related fitness to academic achievement of college students.

## SIGNIFICANCE OF THE STUDY

As a result of the present study the following benefits were like to accrue.

- The study may help to understand the academic achievement of the college students.
- The study may motive future investigations to undertake more similar studies.

- This may help giving useful guidance to the concerned authorities and enlighten the students in the colleges.

## REVIEW OF RELATED LITERATURE

Petrides<sup>3</sup> examines the most of trait emotional intelligence is academic performance an in deviant behavior at school on a sample of 650 pupils in British Secondary Education, Trait emotional intelligence moderated the relationship between cognitive ability and academic performance. In addition, pupils with high trait emotional intelligence scales were less likely to have had unauthorized absences and less likely to have been excluded from school. Most trait emotional intelligence effects persisted even after controlling for personality variance. It is concluded that the conservation of emotion related self-received abilities and disposition that the construct of trait emotional intelligence is implicated in academic performance and deviant behavior with effect that are particularly relevant to vulnerable or disadvantaged adolescents.

Inga Dora Siffusdottir<sup>4</sup>, et al., conducted a study on health behavior and academic achievement in Icelandic school children. Interest in the relationship between health behavior and academic achievement has recently intensified in the face of the epidemic of childhood and adolescent obesity and converging school reforms in the United States and other nations with advanced economic epidemiologic research has demonstrated that poor diet and lack of adequate physical activity place children at risk for being overweight and obese and thus influence future health status. Additional research has also shown that children and adolescents whose diets are nutritious and whose participation in physical activities is high tend to perform better on various measures of cognitive performance and academic achievement. We analyzed cross sectional survey data from 5810 Icelandic school children to explore the relationship between selected health behavior and academic achievement. Body mass index, diet and physical activity explained up to 24% ( $p < 0.01$ ) of the variance in academic achievement when controlling for gender. Potential education, family structure and absenteeism variance explained increase to 27% when depressed mood ( $p < 0.05$ ) and self-esteem ( $p < 0.01$ ) are added to the model, but confound the role of physical activity. Although no robust, these findings are consistent with previous work and affirm the complexity of the relationship of health to academic achievement.

## METHODOLOGY

The purpose of the study was to survey the relationship of health related fitness to academic achievement of the degree college students. To pursue this study the investigator adopted the following procedures.

In order to find out the minimal level of physical fitness of the college students he adopted the following tests.

- **Cardiovascular strength**
- **Muscular strength**
  - Upper body – pull ups
  - Abdominal – Sit ups
- **Muscular flexibility**
- **BMI (Body mass index)**

At the initial stage the researcher made a visit to the colleges, principles and took permission to collect data from the students. Then the researcher made personal visits to all those colleges selected as randomly in colleges. The researcher checked the physical fitness of the college students in a systematic manner and then he collected the information from the students.

### Academic Achievement

The data in respect of academic achievement was computed by percentage of marks scored by the subjects in the qualifying examination. Percentage of marks, for e.g. 50% the data sheet was prepared by the researcher with the consultation of guide.

Sums of 60 students are selected and two colleges were selected. The investigator was able to collect the data from these two college students. Four simple physical fitness tests of normal health were administered on success / failure basis. Their reliability is as follows.

### Cardiovascular Endurance

#### Harvard Step Test<sup>5</sup>

The Harvest Step Test is another test of the same general type as the Tuttle pulse ratio test; this test was originally constructed for college men following are instructions for its administration. The subject steps up and down 30 times a minute on a bench 20 inches high, each time, the subject should step all the way upon the bench with the body erect, stepping is

Done in four counts, as far as Tuttle pulse ratio test. However he may lead off with the same foot each time or change feet as he desires, so long as the four count step is maintained.

- a) The stepping exercise continues for exactly five minutes, unless the subject is forced to step sooner due to exhaustion. In either case, the duration of the exercise in seconds is recorded; the maximum number of seconds is 300 far for the full five minute period.
- b) Immediately after completing the exercise, the subject sits on a chair, the pulse is counted 1 to 1 1/2, 2 to 2 1/2 and 3 to 3 1/2 minutes after the stepping cases.
- c) A Physical Efficiency Index (PEI) is computed utilizing the following formula.

Duration of exercise in seconds

$$PEI = \frac{\text{Duration of exercise in seconds}}{2 \times \text{sums of pulse counts in recovery}} \times 100$$

To illustrate the subject completed the exercise period, 300 seconds, his recovery period pulse counts were 75 for 1 to 1 1/2 minutes, so far 2 to 2 1/2 minutes and 35 for 3 to 3 1/2 minutes (the sum is 160) substituting in the formula.

30,000

$$PEI = \frac{30,000}{2 \times 160} \times 94$$

### Muscular Strength<sup>6</sup>

- Upper body – Pull ups
- Abdominal – Sit up

### Pull up test for boys

#### Procedure

The boys pull up test is administered from a chinning bar to which preferably rings have been attached, this arrangement permits the wrists to twist naturally as the subject performs the test, and the rings should be high enough from the floor so that the feet of the tallest boy do not touch the floor when performing the test. If this is impossible, it will be necessary for tall individuals to bend their knees in order to touch the feet on the floor in lowering the body to a straight arm hang.

**Procedure**

The boy's lies on his back, knees straight, feet about 12 inches apart, and hands clasped, behind head. A scorer kneels on the floor and holds the soles of the feet against his knees, pressing firmly; the pupil performs the following movements of many times as possible.

**Muscular Flexibility<sup>7</sup>**

**Procedure**

This is one of the physical fitness tests which is used to measure the flexibility of a person. Here is AAHPERD flexibility test the subject stand with bare foot and bend forward without flexing the knees and touches the ground with the tip of his fingers. If the subjects is unable to touch his finger tips to the ground the dispense between the finger tips and ground will be measured and given negative marks.

**Body Mass Index**

**Procedure**

To measure BMI, respondents were asked to self-report their weight and height, BMI was calculated from these self-reports with the following formula weight in kilograms (height in meters x height in meters). Because BMI values are sensitive to changes in fat distribution and the development of muscle during puberty, we calculated and used BMI z-scores.

**Analysis and Interpretation of data**

The main purpose of the present investigation was to assess the health related fitness to according to achievement of degree college boys of Mysore district. To achieve the purpose of the present study Sixty (N=60), boys from Mysore district degree college. The subjects drawn were in age group of 18-25 years. The subjects selected for the study were rated as the best of their consistency in performance in achievements.

The AAPEHERD test was used for the present study. The data for the study was in the form of numerical scores that was collected by the response of the subjects to the different items of test. The mean academic achievement values were computed from the available data to assess the health related fitness and to academic achievement level of degree college boys of Mysore district.

**Table No.1**

**ANOVA**

Model	Sum of Squares	df	Mean square	F	Sig
Regression	226.283	1	226.283	25.035	.000 <sup>a</sup>
Residual	524.238	58	9.039		
Total	750.521	59			

a – Predictors (constant) MUS FLEX

b – Dependent variable, BMI

**Table No.2**

**Coefficients**

Model	Unstandardized coefficients		Standardized coefficients	t	Sig
	b	Standard Error	Beta		
Constant	25.924	1.002		25.869	.000
MUSFLEX	524.238	58	9.039		

a – Dependent variable: BMI

**Table No.3**

**Excluded Variables**

Model	Sum of Squares	df	Mean square	F	Sig
Endurance	.070 <sup>a</sup>	.587	.560	.078	.861
Pull up	.057 <sup>a</sup>	.476	.636	.063	.847
Time	-.188 <sup>a</sup>	-1.720	.081	-.222	.972
Sit ups	-.206 <sup>a</sup>	-1.739	.087	-.224	.827

a – Predictors in the model (constant) MUSFLEX

b – Dependent variable, BMI

The correlation, coefficient value 'r' showed a very high positive correlation between academic achievement health related fitness and it was also found relationship was statistically significant subjects related in the present study were between the age group of 18-25 years. It may be fact that the students as they were grown up and mastered might have perceived achievement of studies and

health in the right perspective. The subjects have reached the stage of maturity in light and also they are matured enough to understand academic achievement and health related fitness, hence the result of the study.

**Table No.4**

**Correlations**

		Academic	Endurance	Pull up	Time	Muscle Flex	BMI
<b>Academic</b>	Pearson Correlation		**	**	*	**	*
<b>Endurance</b>	Pearson Correlation	.372**		**		**	
	Sig (2 tailed)	.003					
	N	60					
<b>Pull up</b>	Pearson Correlation	.433**	**			**	**
	Sig (2 tailed)	.001					
	N	60					
<b>Time</b>	Pearson Correlation	.301*				**	*
	Sig (2 tailed)	.019					
	N	60					
<b>Sit ups</b>	Pearson Correlation	.333**	**	**		**	**
	Sig (2 tailed)	.009					
	N	60					
<b>Muscle Flexibility</b>	Pearson Correlation	.381**	**	**		**	**
	Sig (2 tailed)	.003					
	N	60					
<b>B.M.I.</b>	Pearson Correlation	.312*			*	**	**
	Sig (2 tailed)	.015					
	N	60					

**SIGNIFICANCE**

Significance related to endeavor present pull up time, sit up and muscle flexibility, positive relationship. BMI is correlated significantly negative related academic achievement indicating inverse relationship between academic and BMI.

**MAIN FINDINGS**

BMI was to find to be correlated significantly negatively with the time, sit-ups and muscle flexibility, however, BMI was independent of endurance and pushups variables with the time correlation coefficient 2.76 was found to significance. .3371 With the sit-ups correlation coefficient of -.311 which was found as significance as .02111 and least with muscle flexibility B.M.I. had correlation of -.59 which was found significant .00 levels. In reference with the BMI was independently of endurance and pull ups and negatively related to time sit ups and muscle flexibility.

**REGRESSION**

When variables like endurance, pull ups, time sit ups and muscle flexibility were upgraded as BMI through steps were multiple regression following results are obtained. The only variable to entering the equality to predict BMI was muscle flexibility with correlation coefficient of .459 and contributes of 28.91

The regression ANOVA obtained for the model was found to be 25.035 which was found significant at .00 level, further 't' value obtained for constituent and muscle flexibility are also found of significant at .000 level. The excluded variable in the first step in order of significant on endurance, pull ups, time and sit ups.

**SUMMARY**

The purpose of the present study by the investigator was to analyses the relationship between health related fitness and academic achievement of Mysore District Degree College boys, sixty students were selected for the collection of data. Ranging in age between 18-25 years was drawn as subjects. The in respect of health related fitness variables were in numerical form.

There were significant difference in the mean value of BMI and academic achievement. There was no significant difference the mean value of academic achievement of Degree College of boys at Mysore District.

**CONCLUSION**

It was concluded from the analysis of data that there were significance difference health related fitness and academic achievement of degree college boys of Mysore district.

**RECOMMENDATIONS**

- Students with a larger sample of subjects maybe under taken as they may yield tangible results.
- Homogenizes groping of subjects may yield more reliable results.
- A particular age level of students, for eg. 16 years, 17 years may be considered for further studies.
- The study may be repeated using the other standardized test of relationship between health related fitness and academic achievement available.



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