

# Relationship of Health-related Fitness to Academic Achievement of High School Girls of Sulya Taluk

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## ABSTRACT

A better understanding of Health related fitness and academic achievement may facilitate the development of more targeted sports activity interventions. Few studies have analyzed the rates and correlates of physical activity and academic achievement in economically and geographically diverse populations. Therefore, the aim of this study is to investigate the relationship of health related fitness and academic achievement of high school girls in Sulya Taluk. So this investigation is an attempt to explore these issues to shed more light on this area and to help further the knowledge base. The study was delimited to sixty (n=60) the students studying in High schools of Sulya Taluk during the academic year 2015-16. Health Related Fitness variables were the Muscular Strength, Muscular Endurance, Cardio-respiratory Endurance, Flexibility and Body Composition. The data in respect of academic achievement was computed by percentage of marks scored by the subjects in the qualifying examination. The data was analyzed through product moment correlation 'r' to find out the relationship of dependent variable with independent variables. ANOVA was used. Analysis revealed that a very high positive correlation between academic achievement and Health related fitness and it was also found relationship was statistically significant. Health related fitness variables Cardio-vascular Endurance, Flexed arm hang, Sit-ups and flexibility has positive relationship with academic achievement of high school girls of Sulya Taluk. BMI is correlated significantly negative related academic achievement indicating inverse relationship between academic and BMI. The author concluded from the analysis of data that there was significance difference between Health related fitness variables and academic achievement of high school girls of Sulya Taluk.

## 1. Introduction

Health is wealth; health is real strength and bliss. This is 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.

## 2. Benefits Related to Health

It is well-established by studies that regular physical activity is beneficial to human being. Longer and better quality of life with reduced risks of a variety of diseases and many psychological and emotional benefits is associated regular participation in Sports and Physical Activities. One of the most significant causes of death in modern life is physical inactivity. The other reasons are disability and reduced quality of life in the advance world.

According to **Kamalesh (1994)**, 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 thinker in education now a days, emphasis that the best individual is one who is physically fit, mentally sound and sharp, emotionally balanced and socially well adjusted.

At a time when schools are pressured to devote more time and resources to academics and less to physical education, Hillman, Buck, et al. (2008) indicate that programs that promote physical fitness not only improve physical health, but cognitive

health and academic achievement as well (Diamond, p. 4, 2009). Cooper and Taras (2003) proposed, "health and achievement go hand in hand" (p. 23). Eliminating physical education from our schools to make more time for academics may be detrimental and counterproductive.

## 3. Need for the Study

A better understanding of Health related fitness and academic achievement may facilitate the development of more targeted sports activity interventions. Few studies have analyzed the rates and correlates of physical activity and academic achievement in economically and geographically diverse populations. Therefore, the aim of this study is to investigate the relationship of health related fitness and academic achievement of high school girls in Sulya district. So this investigation is an attempt to explore these issues to shed more light on this area and to help further the knowledge base.

## 4. Statement of the Problem

The purpose of the study was to find the "Relationship of health related fitness to academic achievement of high school girls of Sulya District" for the year academic year 20015-16.

## 5. Delimitation

- The study was delimited to the students studying in High schools of Sulya District during the academic year 2015-16.

- The Study was delimited to a sample of sixty (n=60) students.
- The study was delimited to the students ranging in age between 14-16 years.
- The study was delimited to test the Health Related Fitness variables such as Muscular Strength, Muscular Endurance, Cardio-respiratory Endurance, Flexibility and Body Composition.

**6. Limitation**

- Due to financial limitations and lack of equipments 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 subject's performance in terms of marks/grades as given in the school records.
- The study was conducted on sixty girl students from four randomly selected schools in Sulya district.

**7. Definition of Terms**

- 1. Health Related Fitness-** "The ability to perform occupational, recreational and daily activities without unduly fatigues, and possess physical attributes that minimize risk of hypo-Kinetic diseases and enhance the degree of wellness". (Hayward, Vivian H. 1984).
- 2. Cardio-Vascular endurance-**"Cardio-respiratory endurance and circulatory endurance, is a kind of physiological fitness demonstrated through and adjustment of the heart and lungs to prolonged physical exertion". (Carl. E. Willgoose 1961).
- 3. Muscular Endurance-** "The ability of a muscular group of muscles to work against a moderate resistance for a relatively long periods of time". (Mathews, Donald K. 1979).
- 4. Body composition** – "The proportion of body fat mass to lean body tissue mass". (Tannered, B, 1987).
- 5. Flexibility** – "The ability of an individual to move the body and its parts through as wide a range of motion as possible without under strain to the articulations and muscle attachments." (Johnson, B.L. and Nelson J.K. 1979).
- 6. Academic Achievement** - As defined by Metzager (1974), academic achievement refers to the progress of a child makes in school as measured by his scores on achievement test, his grade point averages his promotion, from grade to grade and the development of proper attitude. From the point of view of this study academic achievement meant the percentage of marks the subject obtained in examination conducted by the school.

**8. Hypothesis**

There is no significant relationship between Health Related Fitness to Academic Achievement of High School Girls of Sulya District

**9. 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 relationship between Health Related Fitness to academic achievement of the High School Girls of Sulya District.
- The study may help to understand the importance of physical fitness in academic achievement.
- The study may motivate future investigations to undertake more similar studies.
- This may help giving useful guidance to the concerned authorities and enlighten the students in the schools.

**10. Methodology**

**Selection of subjects**

- A total of 60 students were selected from four randomly selected schools in Sulya district.
- The age of the students was 14-16 years.
- From each school 15 girl students were selected.
- The investigator was able to collect the data from these four High School Girls of Sulya District.

In order to find out the Health related fitness of the high school girls she adopted the following tests.

**Table 1**  
**Health Related Fitness Variables and Criterion Measures**

Sl. No.	Variables	Tests	Criterion Measures
1	Cardio-vascular Endurance	Harvard step test	HR/30sec
2	Muscular Strength / Endurance	Flexed Arm Hang Test	Seconds
3	Muscular Strength / Endurance	Sit ups	No.s/Min
4	Flexibility	Sit and Reach Test	Centimeter
5	Body Composition	BMI (Body mass index)	Height in mts Weight in kgs

At the initial stage the researcher made a visit to the schools and took permission to collect data from the students.

Then the researcher made personal visits to all those schools which were selected as randomly in Sulya district.

The researcher checked the health related fitness of the high school girls by conducting above said tests and then she collected the information from the students.

**11. Academic Achievement**

The data in respect of academic achievement was computed by percentage of marks scored by the subjects in the qualifying examination. The data sheet was prepared by the

researcher with the consultation of guide. The investigator succeeded 100 percent in his attempt and was satisfied with their responses. Analysis and interpretation of the data is presented in the fourth chapter. Four simple physical fitness tests of normal health were administered on success / failure basis.

## 12. Design of the Study and Statistical Technique

The present study is intended to be a correlation study that involves finding the relationship of Health Related Fitness Variables with Academic Achievement of High school girls of Sulya district. The data was analyzed through product moment correlation 'r' to find out the relationship of dependent variable with independent variables. ANOVA was used

## 13. Main Findings and Discussion

- There is a very high positive correlation between academic achievement and Health related fitness and it was also found relationship was statistically significant.
- Subjects related in the present study were between the age group of 14-16 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.

- Health related fitness variables Cardio-vascular Endurance, Flexed arm hang, Sit-ups and flexibility has positive relationship with academic achievement of high school girls of Sulya district. BMI is correlated significantly negative related academic achievement indicating inverse relationship between academic and BMI.
- BMI was to find to be correlated significantly negatively with the sit-ups and Flexibility, however, BMI was independent of endurance and Flexed arm hang variables was found to be significance. With the sit-ups which was found as significant and least with flexibility. BMI was found significant .00 level. In reference with the BMI was independently of endurance and Flexed arm hang and negatively related to sit ups and flexibility.

## 14. Conclusion

It was concluded from the analysis of data that there was significance difference between Health related fitness variables and academic achievement of high school girls of Sulya district.

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