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Mukesh
Research Scholar,
M.D.U, Rohtak, India.

A study of academic achievement of secondary school students in relation to their physical activities

Mukesh

Abstract

Understanding the relationship between physical activity, and academic achievement can help provide schools and organizations with the evidence needed to appropriately design academic and physical activity programming. At this point, evidence suggests a positive relationship between physical activity and grade point average, rate of learning, and motor skill development.

Keywords: Academic achievement, Secondary school students, Physical activities

Introduction

As schools everywhere strive to improve the academic performance of their students, many have cut physical education and recess periods to leave more time for sedentary classroom instruction. A sensible new report from the Institute of Medicine, a unit of the National Academy of Sciences, shows how short-sighted this trend can be. It found that exercise can significantly improve children's cognitive abilities and their academic performance, as well as their health. Students who exercise have lower body fat, greater muscular strength, and better cardiovascular and mental health. While admitting that the studies are limited, a panel of experts assembled by the institute says that "a growing body of evidence" suggests children who are more active are better able to focus their attention, are quicker to perform simple tasks, and have better working memories and problem solving skills than less-active children. They also perform better on standardized academic tests. Academic performance is influenced by factors like parental involvement and socioeconomic status, but the panel reported that active children tended to have stronger performance, especially in reading and mathematics. It believes that the benefits of exercise during the school day outweigh the benefits from increasing class time.

The report recommends that all students get at least 60 minutes a day of vigorous or moderate physical activity, equivalent to a brisk walk. Only about half of all school-age children meet this guideline, according to the panel. The way to increase exercise is to promote physical education classes, recess and classroom breaks during the school day; encouraging after-school sports and walking or biking to school when feasible would also help. Physical activity should be a core educational concern, not a dispensable option

Academic Achievement

The educational institutions occupy a very important and vital place in the educational environment of the people. The process of educational instruction in the educational institution is measured by the various periodical tests like weekly test, monthly test, half yearly tests and annual test. Whether the student has achieved the knowledge imparted to him is being justified by the results he achieved from the tests. The results of achievement test that measure relatively accomplishment in a specific area of work can be termed as academic achievement. Academic achievement plays an important role in the life of an individual because it gives may toward his goal. It is according to his academic achievement that he chooses his vocation, his career and his profession. In educational life academic achievement is highly valued. In modern age success in competition has become very important and essential to get a place in higher institution. It has also been noticed that those who have better academic achievement, they are place high in the society.

Correspondence:
Mukesh
Research Scholar,
M.D.U, Rohtak, India.

But it does mean that all the high academic achievers are highly positioned.

Statement of the Problem:

“A Study of Academic Achievement of Secondary School Students in relation to their Physical Activities”.

Objectives of the Study:

- 1) To study the Academic Achievement of secondary school students.
- 2) To study the relationship between academic achievement and physical activities of boys of secondary school.
- 3) To study the relationship between academic achievement and physical activities of girls of secondary school.
- 4)

Hypotheses of the Study:

- 1) There exists no significant difference in academic achievement among students of secondary school in relation to gender.
- 2) There exists no significant relationship between academic achievement and physical activities of boys of secondary school.
- 3) There exists no significant relationship between academic achievement and physical activities of girls of secondary school.

Delimitations of the Study:

- 1) The area of the study is limited to Rohtak only.
- 2) Only secondary school students were taken for the study.
- 3) The study was confined to only 100 secondary school students.

Research Method

After the extensive study of the literature on methodology of research, Descriptive research method was opted. Descriptive Research studies are designed to obtain pertinent and precise information concerning the current status of phenomena to draw valid general conclusions from the facts discovered. The descriptive research method has undoubtedly been the most popular and the most widely used research method in education.

Population:

A population is any group of individuals that have one or more characteristics in common that are of the interest to the investigator. It may be all the individuals of particular type or a restricted part of that group (Best, 1997). Thus a population refers to any collection of specified group of human beings

or of non-human entities such as objects, educational institutions, time, units, geographical areas or salaries etc. students studying in senior secondary school constituted the target population of the present study.

Sample:

The total sample for the study comprises 100 students from 1 secondary school. The school is included in the sample are located in Rohtak District.

Variables of the Study:

- (1) Dependent Variable: In this study the dependent variable is Academic Achievement.
- (2) Independent Variable: In this study the independent variable is Educational Aspiration.

Tool Used:

Self-made questionnaire is used to collect the data for this purpose. For each and every type of research we need certain instruments to gather new facts as to explore new fields. The selection of suitable instruments or tools is of vital importance for collection of data and it depends upon various considerations such as objectives of the study.

Statistical Techniques Used

t – test

Since the means probably the most satisfactory measure for characterizing, the researcher found it important to determine whether the difference of the mean of two samples is significant. As the mean of the two groups randomly drawn from the same population were not necessarily identical, any differences that appeared at the end of the experimental cycle could possibly be attributed to sampling error. The test is applied to test the significance of the difference two means. It comprises the computation of the ratio between experimental variance and error variance.

The formulas are used to examine difference of means of various samples

$$t = \frac{M_1 - M_2}{\sigma_D}$$

Analysis and Interpretation of Data

So the investigator has drawn certain tables on the basis of raw scores. The analysis and interpretation of data are given:

Hypotheses 1:

There exists no significant difference in Academic Achievement of Secondary School in relation to gender

Table 4.1: Mean, S.D. and ‘t’ value of the Academic Achievement between boys and girls of secondary school

Variable	Sample	N	Mean	S.D.	‘t’ value
Academic Achievement	Boys	50	440.4	57.63	2.58
	Girls	50	471.84	64	

Table 4.1 shows that mean and S.D. of Academic Achievement of boy students of secondary school is 440.4 and 57.63 respectively and mean and S.D. of girl students of secondary school is 471.84 and 64 respectively. The obtained ‘t’ value is 2.58 which is not significant at level 0.01 which mean hypotheses “There exists no significant difference in Academic Achievement of Secondary School in relation to

gender” is accepted.

Hypotheses 2:

There exists no significant relationship between academic achievement and physical activities of boys of secondary school

Table 4.2: Relationship between Academic Achievement and physical activities of boys of secondary school of secondary school students

Variables	N	R
Educational Aspiration and Physical Activities	50	0.10 Positively Correlation

Table 4.2 shows that the correlation between Academic Achievement and physical activities of boys of secondary school is 0.10 which means there is positive correlation. The value of 'r' is showing positive relationship between Academic Achievement and physical activities of boys of secondary school.

Hypotheses 3:

There exists no significant relationship between academic achievement and physical activities of girls of secondary school

Table 4.3: Relationship between Academic Achievement and physical activities of girls of secondary school of secondary school students

Variables	N	R
Educational Aspiration and Physical Activities	50	0.12 Positively Correlation

Table 4.3 shows that the correlation between Academic Achievement and physical activities of girls of secondary school is 0.10 which means there is positive correlation. The value of 'r' is showing positive relationship between Academic Achievement and physical activities of girls of secondary school.

Conclusion and Findings

In the present study it is concluded that the academic achievement and physical education are correlated with each other. Physical activities directly impacts the behavior and development of the brain. "It is likely that the effects of physical activity on cognition would be particularly important in the grades and academic achievement of the students.

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