

RELATIONSHIP BETWEEN PHYSICAL FITNESS AND ACADEMIC ACHIEVEMENT OF STUDENTS AT SECONDARY LEVEL

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ABSTRACT

The health benefits of regular physical exercise are widely acknowledged. Even though the benefits of physical exercise are acknowledged, physical education in public schools is viewed as an extra-curricular activity and physical education teachers have experienced first hand when money is tight and/or when there is pressure to improve test scores, physical education is one of the first activities to be cut back or eliminated. However, if there is evidence that physical education has a direct positive effect on important educational domains, it could be argued that physical education is not extra-curricular. Rather, it is a vital component in students' academic success.

It is not the intention of this paper to argue that the importance of physical education is its benefit to academic achievement. The overall health benefits of organized physical activity are probably much more important than possible academic benefits. However, when policy makers need to make difficult decisions about where to spend public funds and administrators need to make decisions about where to focus resources in a climate of academic accountability, a proven relationship between physical fitness and academic achievement could be used as an argument to support, retain, and perhaps even improve physical education programs.

The purpose of this study was to evaluate the relationship between physical fitness and academic achievement and Impact of physical fitness on academic achievement. To do so, scores on Physical Fitness Test, were compared on the Academic Achievement Test. The sample size was 200 students. Results indicate a consistent positive impact relationship between overall fitness and academic achievement. That is, as overall fitness scores improved, mean achievement scores also improved. This relationship between fitness and achievement appeared to be stronger for females than males and stronger for higher socio-economic status (SES) than lower SES students. Results should be interpreted with caution. It cannot be inferred from these data that physical fitness causes academic achievement to improve. It is more likely that physical and mental processes influence each other in ways that are still being understood.

Introduction

As we know that Physical Education is an integral part of education. Many children and youth in India today lead inactive lifestyles and follow poor dietary eating habits. As a result, they put themselves at risk for many serious illnesses associated with physical inactivity, including diabetes and heart disease. To help guard against these diseases and other illnesses associated with physical inactivity, it is essential that children and youth engage in active healthy lifestyles. We need to ensure that Indian children and youth develop the skills, knowledge, and attitudes necessary for participating in active healthy living. This is the role of school Physical Education. Children and youth need to be Physically Educated so they will be physically active throughout their lives. There is often confusion among professionals in the field, as well as by media and the general public regarding the similarities, differences, and interplay between Physical Education and physical activity. Often the terms are used interchangeably; however they are not the same. The implications of this have the potential to negatively impact the way Physical Education is viewed and delivered in India.

Purpose of the study

The study has following major objectives:

To find out the relationship between physical education and academic achievement.

To know the impact of physical education on students academic achievement.

Hypothesis of the study

The following two hypotheses were designed:

There is no significant relationship between physical education and academic achievement.

There is no significant impact of physical education on student's academic achievement.

Method

During the month of January and February 2010, the researchers administered the PFT and AAT on 9th grades students to collect the raw scores.

In 2011, began reporting the Physical Fitness Test (PFT) Academic Achievement Test (AAT) results each year. Students of grade nine are expected take the PFT and AAT. Students who are physically unable to take the entire test are to be given as much of the test as possible.

The analysis had two parts. First, for each overall PFT and AAT scores were calculated. The scores is a normalized standard score with a mean of 50. The average test score by overall PFT score provides an indicator of the relationship between fitness and achievement. Second, analysis of variance (ANOVA) was used to test the relationship between the overall PFT score and achievement scores.

Tool Used

Self made Physical Fitness Test (PFT) and Academic Achievement Test (AAT) was used as a tool to collect the data from students. Data were collected from the students of Delhi

region public schools only which were selected by the stratified random sampling technique.

Data collection

The sample was 200 students which were selected by the stratified random sampling technique. The sample of 200 students was collected from public schools of Delhi region. The tests PFT and AAT were administered on 200 students which were studying in 9th class in Delhi region.

Analysis of Data

The analysis had two parts. First, for each overall PFT and AAT scores were calculated. The score is a normalized standard score with a mean of 50. The average test score by overall PFT and AAT score provide an indicator of the relationship between fitness and achievement. Second, analysis of variance (ANOVA) was used to test the relationship between the overall PFT score and achievement scores on AAT.

Interpretation of Data

Results indicate a statistically significant linear relationship between overall PFT scores and AAT scores. The linear trend is significant at $P < 0.0001$. As the PFT score increases the average AAT increases. The R^2 was 0.26; indicating considerable unaccounted test score variance. There may even be variables, not included in the model, that mediate the relationship between physical fitness and academic achievement. However, available data suggest a strong linear relationship between fitness and achievement.

There were significant interaction effects. ANOVA results indicate that the rate of increase in mean achievement scores by PFT scores was greater for females than males. Results indicate that impact of physical fitness on academic achievement is significant and both are close together. Poor physically fit students get low academic achievement on AAT while healthy and physically fit students get good academic achievement.

Discussion

When the overall PFT score was compared to mean scores, there was a consistent positive relationship between physical fitness and academic achievement. ANOVA analyses revealed, as overall PFT scores increased, mean achievement scores also increased in a statistically significant way. There was a statistically significant positive linear relationship between fitness and achievement.

ANOVA analyses also revealed statistically significant interaction effects. For example, as PFT scores increased, mean achievement scores increased at a greater rate for females than males. This indicates that relationship between fitness and achievement was stronger for females than males. Also, as PFT scores increased, mean achievement scores increased at a greater rate for higher SES students than for lower SES students. This

indicates that relationship between fitness and achievement was stronger for higher SES students than for lower SES students.

Conclusion

On the basis of above research, we want to convey our message to all educationists, teachers, physical education teachers, researchers, policy makers, parents and students also that physical fitness and academic achievement has positive relationship and physical fitness is must for every student to get good academic achievement so that we can do all-round development of students.

References:

1. Brynteson, P., & Adams, T. M. (1993). The effects of conceptually based physical education programs on attitudes and exercise habits of college alumni after 2-11 years of follow-up. *Research Quarterly*, 64, 208-212.
2. Despres, J. P., Bouchard, C., & Malina, R. M. (1990). Physical activity and coronary heart disease risk factors during childhood and adolescence. *Exercise Sport Science Review*, 18, 243-262.
3. Fishburne, G. J. (2005). *Developmentally appropriate physical education for children and youth*. Edmonton, AB.: Ripon Publishing.
4. Fishburne, G. J. (1996). The need for and value of quality programmes of physical education. *Canadian Administrator*, 35(6), 6-11.
5. Halas, J. (2001). Playtime at the treatment center: How physical activity helps troubled youth. *AVANTE*, 7, (1), 1-13.
6. Kuh, D. J. L., & Cooper, C. (1992). Physical activity at 36 years: Patterns and childhood predictors in a longitudinal study. *Journal of Epidemiology and Community Health*, 46, 114-119.
7. Powell, K. E., & Dysinger, W. (1987). Childhood participation in organized school sports and physical education as precursor of adult physical activity. *American Journal of Preventative Medicine*, 3, 276-281.
8. Sallis, J. F. & McKenzie, T. L. (1991). Physical education's role in public health. *Research Quarterly Exercise and Sport*, 62, 124-137.
9. Shephard, R. J., & Trudeau, F. (2000). The legacy of physical education: Influences on adult lifestyle. *Pediatric Exercise Science*, 12, 34-50.
10. Shephard, R. J. (1997). Curricular physical activity and academic performance. *Pediatric Exercise Science*, 9, 113-126.
11. Seefeldt, V. and Haubenstricker, J. (1982) Patterns, phases or stages, an analytical model for the study of developmental movement. In J.A.S. Kelso and J.E Clark (Eds) *The Development of Movement Control and Coordination* (New York, Wiley), 309–319.