



CHILDREN'S HEALTH ISSUES

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Abstract

Physically active and educated children are more likely to thrive academically and socially. Through effective physical education, children learn how to incorporate safe and healthy activities into their lives. Physical education is an integral part of developing the “whole” child in social settings and the learning environment. Today, obesity is one of the most pressing health concerns for children. Nearly one-third of children and teens, more than 23 million kids, are overweight or obese — and physical inactivity is a leading contributor to the epidemic. The Surgeon General recommends children should engage in 60 minutes of moderate activity most days of the week, yet estimates show that only 3.8 percent of elementary schools provide daily physical education (PE). Schools serve as an excellent venue to provide students with the opportunity for daily physical activity, to teach the importance of regular physical activity for health, and to build skills that support active lifestyles. Unfortunately, most children get little to no regular physical activity while in school. Many school systems have downsized or eliminated PE under the assumption that more classroom time will improve academic performance and increase standardized test scores.

1. Introduction

Kids who are more physically active tend to perform better academically. Fourteen published studies analyzing data from approximately 58,000 students between 1967 and 2006 have investigated the link between overall participation in physical activity and academic performance. Eleven of those studies found that regular participation in physical activity is associated with improved academic performance. Eight health surveys involving population-representative samples of children and adolescents from the United States, United Kingdom, Hong Kong and Australia observed statistically significant positive correlations between physical activity participation and academic performance. However, none of these studies assessed academic performance with standardized educational tests. For example, a national study conducted in 2006 analyzed data collected from 11,957 adolescents across the U.S. to examine the relationship between physical activity and academic performance.



Fig.1 Students performances in schools

1.1 Effect on adolescent age

Adolescents who reported either participating in school activities, such as PE and team sports, or playing sports with their parents, were 20 percent more likely than their sedentary peers to earn an “A” in math or English. Three other smaller studies conducted between 1970 and 2006 involving students from one or two schools also reported a positive correlation between physical activity and academic performance. Two studies found no evidence of a relationship between physical activity and academic performance and one study conducted in Canada in the year 2000 reported a trivial negative association between physical activity and standardized test scores.

Schools serve as an excellent venue to provide students with the opportunity for daily physical activity, to teach the importance of regular physical activity for health, and to build skills that support active lifestyles. Unfortunately, most children get little to no regular physical activity while in school. Budgetary constraints and increasing pressure to improve standardized test scores have caused school officials to question the value of PE and other physical activity programs. This has led to a substantial reduction in the time available for PE, and in some cases, school-based physical activity programs have been completely eliminated.² Yet advocates for school based physical activity programs argue that allocating time for daily PE does not adversely impact academic performance and that regular exercise may improve students’ concentration and cognitive functioning.

Sacrificing physical education for classroom time does not improve academic performance.

Many school systems have downsized or eliminated PE under the assumption that more classroom instructional time will improve academic performance and increase standardized test

scores. The available evidence contradicts this view.⁸⁻¹⁴ To date, five controlled experimental studies—in the United States, Canada and Australia—have evaluated the effects on academic performance of allocating additional instructional time for PE. All five studies clearly demonstrate that physical activity does not need to be sacrificed for academic excellence. A study conducted in 2006 with 214 sixth-grade students in Michigan found that

students enrolled in PE had similar grades and standardized test scores as students who were not enrolled in PE, despite receiving 55 minutes less of daily classroom instruction time for academic subjects.¹⁴ In 1999, researchers analyzed data from 759 fourth- and fifth-graders in California and found that students' scores on standardized achievement tests were not adversely affected by an intensive PE program that doubled or tripled PE time.

2. about physical activity

According to five studies involving elementary students, regular physical activity breaks during the school day may enhance academic performance. Introducing physical activity has been shown to improve cognitive performance and promote on-task classroom behavior. It is important to note that the cognitive and behavioral responses to physical activity breaks during the school day have not been systematically investigated among middle or high school students.

There are several possible mechanisms by which physical education and regular physical activity could improve academic achievement, including enhanced concentration skills and classroom behavior. Children who spent time in physical education in place of a classroom activity performed no worse academically than students not enrolled in physical education.

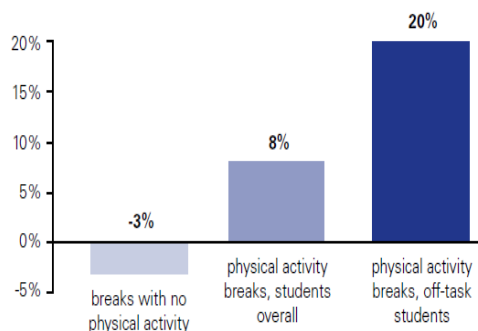


Fig. 2 Percentage of activity breaks in classrooms

Other studies have suggested that exercise is unrelated to academic performance, perhaps due to the parameters used to determine exactly what academic achievement is. This area of study has been a focus for education boards that make decisions on whether physical education should be implemented in the school curriculum, how much time should be dedicated to physical education, and its impact on other academic subjects.

Animal studies have also shown that exercise can impact brain development early on in life. Mice that had access to running wheels and other such exercise equipment had better neuronal growth in the neural systems involved in learning and memory. Neuroimaging of the human brain has yielded similar results, where exercise leads to changes in brain structure and function. Some investigations have linked low levels of aerobic fitness in children with

impaired executive function in older adults, but there is mounting evidence it may also be associated with a lack of selective attention, response inhibition, and interference control.

3. Objectives

The main aim of this study is to present that Physical education is the only subject in school in which children have the opportunity to learn the motor skills and acquire the knowledge to participate in a variety of physical activities. It is the only subject in which physical activity is a primary means of accomplishing educational objectives. Additionally, quality physical education is unique in providing adolescents with self-management skills to become independently physically active as adults. Physical education is critical to the education of the total person and requires a quality program taught by physical education specialists. The relationship between fitness and achievement appeared to be stronger for females than males and stronger for higher socioeconomic status (SES) than lower SES students. Again, the results should be interpreted with caution.

4. Hypotheses

Physical education plays a critical role in educating the whole student. Research supports the importance of movement in educating both mind and body. Physical education contributes directly to development of physical competence and fitness. It also helps students to make informed choices and understand the value of leading a physically active lifestyle. The benefits of physical education can affect both academic learning and physical activity patterns of students. The healthy, physically active student is more likely to be academically motivated, alert, and successful. In the preschool and primary years, active play may be positively related to motor abilities and cognitive development. As children grow older and enter adolescence, physical activity may enhance the development of a positive self-concept as well as the ability to pursue intellectual, social and emotional challenges. Throughout the school years, quality physical education can promote social, cooperative and problem solving competencies. Quality physical education programs in our nation's schools are essential in developing motor skills, physical fitness and understanding of concepts that foster lifelong healthy lifestyles.

5. Conclusion

Regular physical activity is associated with a healthier, longer life and with a lower risk of heart

disease, high blood pressure, diabetes, obesity, and some cancers. Current recommendations are for children to engage in at least 60 minutes of physical activity each day. Children spend over half their day in school, so it is reasonable to require that they should get at least 30

minutes of that time in school. Physical education should be an important part of that requirement and does more than provide some minutes of moderate-vigorous activity. It also exposes students to lifetime activities and teaches students how to integrate exercise into their lives. Since childhood obesity rates continue to rise across the country, there is public support for more physical education in schools. A study conducted by Opinion Research Corporation International for the National Association for Sport and Physical Education (NASPE) in 2003 indicated that 81% of adults believe that daily physical education should be mandatory in schools.

In a systematic review of physical education programs that increased the amount of time that students were physically active, students' aerobic and physical fitness increased. Additionally, modifying the school physical education curricula was effective across diverse racial, ethnic, and socioeconomic groups, among boys and girls, elementary- and high-school students, and in urban and rural settings. Recent research shows that regular exercise can restore blood vessel function and improve cardiovascular risk factors in obese children. A six-month exercise program reduced body mass index, diabetes risk factors and low-degree inflammation.

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