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## **Submission to the Senate inquiry into the academic standards of school education**

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### **1. About Us**

The Australian Sporting Goods Association represents the industry's manufacturers, wholesalers and retailers and supports organizations which encourage Australians to develop healthier and more active lifestyles.

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### **2. Executive Summary**

Provided in this submission is a summary of research reports related to physical education, physical activity and academic performance.

The research available provides an insight to the value of a quality physical education program for young people.

There are two elements to the link between physical education and academic performance:

- Does giving increased time to physical education lead to a decline in academic performance? The available research indicates the answer is NO;
- Does increasing time to physical education lead to an increase in academic performance? The answer probably is yes but is less clear.

However, the research indicates higher levels of physical activity are related to higher levels of academic performance, and **physical education has been shown to be the most important school experience children can have in order to increase their school time physical activity.**

### 3. Summary of the Research Identified

#### I) International Journal of Epidemiology, Volume 12, Number 3 Pp. 308-313

An Investigation of the Effects of Daily Physical Activity on the Health of Primary School Students in South Australia: T DWYER\*, W E COONAN\*\*, D R LEITCH\*, B S HETZEL\* and R A BAGHURST\*

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Studies of the health effects of a daily physical activity program have been carried out in 10-year-old school children in Adelaide, South Australia. In the first phase (1978) observations on endurance fitness, four skin folds, blood pressure and blood lipids were made before and after a randomized trial over a period of 14 weeks.

Comparisons were made on over 500 children drawn from classes in seven Primary schools involved in an endurance fitness program (1 hour per day), a skill program and the previous physical education program (controls).

The fitness group experienced significant gains in physical work capacity (PWC) and showed significant decreases in body fat compared to the other two groups.

No significant differences were observed in plasma cholesterol, triglycerides and HDL cholesterol. Subsequently in the second phase (1980) observations were made on a group of 216 10-year-old children who had already experienced two years of the physical activity program adopted after phase one.

Comparison with the observations in the 10-year-old children in 1978 made prior to the intervention revealed significantly smaller skin folds and greater PWC, with lower blood pressure reaching statistical significance for diastolic pressure in boys.

The findings suggest beneficial effects on health of daily physical activity programs within existing primary school curricula. There was no evidence of any loss of academic performance as measured by arithmetic and reading tests in spite of 45-60 minutes loss of formal teaching time each day.

#### II) Evidence Based Physical Activity for School Age Youth (see attached article for full summary)

**OBJECTIVES:** to review the effects of physical activity on health and behavior outcomes and develop evidence-based recommendations for physical activity in youth.

**RESULTS:** Most intervention studies used supervised programs of moderate to vigorous physical activity of 30-45 minutes duration 3-5 days per week. The panel believed that a greater amount of physical activity would be necessary to achieve similar beneficial effects on health and behavioral outcomes in ordinary daily circumstances (typically intermittent and unsupervised activity).



**CONCLUSION:** School aged youth should participate daily in 60 minutes or more of moderate to vigorous physical activity that is developmentally appropriate, enjoyable and involves a variety of activities. (J Pediatr 2005; 146:732-7)

**SPECIFIC COMMENT ON ACADEMIC PERFORMANCE:** Indicators on academic performance include grade point average, scores on standardized tests, and grades in specific courses; measures of concentration, memory, and classroom behaviors are indirect estimates. The addition of physical education to the curriculum results in small positive gains in academic performance.

The quasi-experimental data also suggest that allocating more curricular time to programs of physical activity does not negatively affect academic achievement, even when time allocated to other subjects is reduced.

Some results also suggest a relative increase in academic performance and physical activity and physical fitness.

Physical activity has a positive influence on concentration and memory and on class room behavior. Mechanistic studies of cognitive function also suggest a positive effect of physical activity on intellectual performance.

III) Res Q Exerc Sport. 1999 Jun; 70 (2): 127-34. Related Articles, links:

Effects of health related physical education on academic achievement: Project SPARK. Sallis J.F, McKenzie TL, Kolody B, Lewis M, Marshall, S Rosengard P. Department of Psychology, San Diego State University, USA. [Sallis@mail.sdsu.edu](mailto:Sallis@mail.sdsu.edu)

The effects of a 2-year health-related school physical education program on standardized academic achievement scores was assessed in 759 children who completed Metropolitan Achievement Tests before and after the program. Schools were randomly assigned to condition:

- (a) Specialists taught the Sports, Play, and Active Recreation for Kids curriculum
- (b) Class room teachers were trained to implement the curriculum; and
- (c) Controls continued their usual programs.

The Trained Teacher condition was superior to Control on Language, Reading, and Basic Battery. The Specialist condition was superior to Control on Reading, but inferior on Language. Despite devoting twice as many minutes per week to physical education as Controls, the health-related physical education program did not interfere with academic achievement. Health-related physical education may have favorable effects on students' academic achievement.

IV) J Sch Health. 2005 Oct; 75(8):291-5. Links Obesity and student performance at school.  
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To review the state of research on the association between obesity among school-aged children and academic outcomes, the authors reviewed published studies investigating obesity, school performance and rates of student absenteeism.

The research demonstrates that overweight and obesity are associated with poorer levels of academic achievement. Data on the association of child overweight or obesity with levels of attendance are too sparse to draw conclusions.

V) Associations between physical activity and other health behaviors in a representative sample of US adolescents:

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This article has been cited by other articles in PMC.

**Abstract OBJECTIVES:** This study examined the associations between physical activity and other health behaviors in a representative sample of US adolescents.

**METHODS:** In the 1990 Youth Risk Behavior Survey, 11631 high school students provided information on physical activity; diet; substance use; and other negative health behaviors.

Logistic regression analyses examined associations between physical activity and other health behaviors in a subset of 2652 high-active and 1641 low-active students.

**RESULTS:** Low activity was associated with cigarette smoking, marijuana use, lower fruit and vegetable consumption, greater television watching, failure to wear a seat belt, and low perception of academic performance.

For consumption of fruit, television watching, and alcohol consumption, significant interactions were found with race/ethnicity or sex, suggesting that socio-cultural factors may affect the relationships between physical activity and some health behaviors.

**CONCLUSIONS:** Low physical activity was associated with several other negative health behaviors in teenagers. Future studies should examine whether interventions for increasing physical activity in youth can be effective in reducing negative health behaviors.