

Nutritional habits and fitness levels of schoolchildren

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The physical activity levels and health status of Australian schoolchildren have long been of concern. The 1992 Senate Inquiry found low levels of cardiovascular fitness and a disturbing proportion of overweight children in Australia (1). As there are many health risks associated with unfit or obese children, many schools have programs to increase physical activity and provide nutrition education to their students. Have such health promotion programs had any effect on the nutritional habits of schoolchildren?

This study looked at the nutritional habits, and fitness levels of children aged 11 to 12 years in inner urban (IU), outer urban (OU), and rural (RU) primary schools in Victoria. Physical fitness was assessed by a 20m multistage shuttle run for cardiorespiratory fitness (CR), and a 50m sprint for anaerobic fitness (AN). Nutritional habits were determined through a 4-day food recall analysed by Foodworks™. Physical status was determined by height and weight measurement.

Results show that the OU students displayed superior levels of fitness compared to students in IU and RU schools, however there was a significant decrease in fitness in all groups compared to the 1985 Study of Health and Fitness (2) and to the National Coaching standards(3).

Test/Region	Inner ¹	Outer ¹	Rural ¹	1985 ²	NCC ³
Boys n =	51	45	45		
50 m Sprint (AN) s	9.36 ± 0.88	9.33 ± 0.89	9.68 ± 0.98	8.68	7.8
Shuttle (CR)	5.15 ± 2.26	5.82 ± 1.92	5.28 ± 1.60		6.4
Girls n =	53	50	35		
50 m Sprint (AN) s	9.88 ± 0.89	9.82 ± 0.90	10.14 ± 0.92	8.89	8.1
Shuttle (CR)	3.13 ± 1.22	4.24 ± 1.69	4.31 ± 1.78		5.2

¹ mean ± SD

² Data from 1985 Australian Health And Fitness Survey (2)

³ National Coaching Council Standards (3)

There was a moderate correlation between the hours of physical activity per week and the CR fitness. All of the students appear to be consuming less fat compared to the 1985 findings. Intake of zinc and calcium was marginally below RDI for all groups. Iron intake was 160% of RDI for boys and 132% for girls, indicating the positive effect of nutrition education in schoolchildren. There was no conclusive evidence of regional differences in nutrient intakes or in physical status. Overall, it was not the case that the fitter students had better nutritional habits, however the positive changes in fat and iron intakes suggest that health promotion programs in nutrition are having a beneficial effect in 11-12 yr old schoolchildren.

1. Senate Standing Committee on Environment, Recreation and the Arts. Physical and Sports Education. The Parliament of the Commonwealth of Australia: Canberra, 1992.
2. Australian Health and Fitness Survey, 1985. ACHPER: Hindmarch, SA, 1987.
3. National Coaching Council. Multistage Fitness Test. Australian Coaching Council Inc. Belconnen, ACT 1988.