



Prevalence of Meeting Physical Activity Recommendations in Australian Secondary Students

Background:

The National Secondary Students' Diet and Activity (NaSSDA) survey 2009-10 is jointly funded by the state Cancer Councils, Cancer Council Australia and the National Heart Foundation of Australia. The study fills a significant gap in existing data in Australia by establishing an ongoing commitment to the standardised monitoring of adolescents' body weight, and dietary and physical activity behaviour at both a state and national level.

Methods:

A nationally representative sample of 12,188 secondary school students from year levels 8 to 11, from 237 schools was surveyed. Data on students' dietary, physical activity and sedentary behaviour were collected via a web-based questionnaire, and anthropometric measurements of students' height, weight and waist circumference were taken by trained researchers in a confidential setting. Active parental consent was required for students to participate in each component of the study. An audit of the school food and activity environment was also conducted.

This research memo reports on levels of physical activity among Australian secondary school students. The *Moderate-to-Vigorous Physical Activity* (MVPA) measure was used to assess physical activity. Students were asked "Over the past 7 days, on how many days were you physically active for a total of 60 minutes or more per day?". The *MVPA* measure has shown to be reliable, valid and correlate well with objective measures of physical activity.¹ It also allows direct comparison with *Australia's Physical Activity Recommendations for 12-18 year olds* which suggest that adolescents engage in at least 60 minutes of moderate to vigorous physical activity every day.²

Data were weighted by state, year level, sex and education sector to the population of students enrolled in Australia and the reported prevalence estimates are based on these weighted data.³ Analyses adjusted for school level clustering using Stata SE 11.1. Logistic regression analysis was used to test for significant differences ($p < 0.01$) in the proportion of students meeting the physical activity recommendations over the past week by sex, year level, body mass index (BMI) category, socio-economic status (SES) and home location.

Meeting physical activity recommendations:

Overall, 15% of students reported meeting the physical activity recommendations over the last week. Thirty-eight percent of all students were sufficiently active on four to six days while 41% were sufficiently active on one to three days in the past week. Six percent of all students were not active for at least 60 minutes on any of the previous seven days.

As shown in Table 1, male students were more likely than female students to be engaging in recommended levels of physical activity (22% cf. 8%). There was a significant association between year level and physical activity, with students in Year 11 less likely to be meeting physical activity recommendations compared to Year 8 students (13% cf. 18%).

Overweight or obese students were less likely than healthy weight students to be meeting physical activity recommendations (13% cf. 16%). The proportion of students meeting physical activity recommendations was comparable across the three SES categories. However, there was a significant overall difference by home location, with students residing in rural areas more likely to be meeting target levels of physical activity than students from metropolitan areas (18% cf. 14%).

Table 1: Proportion of students meeting physical activity recommendations over the past week by sex, year level, BMI category, SES and home location			
	Males	Females	All
Total	21.8%	8.3%*	15.4%
<i>Year Level</i>			
8	24.1%	10.4%	17.6%
9	22.1%	9.5%	16.3%
10	22.0%	7.1%	15.0%
11	18.7%	5.9%	12.6%*
<i>BMI Category</i>			
Healthy weight	23.2%	8.7%	16.3%
Overweight / obese	17.5%	6.8%	12.7%*
<i>SES</i>			
Low	22.0%	7.5%	14.8%
Medium	22.8%	9.1%	16.5%
High	19.7%	8.2%	14.7%
<i>Home Location</i>			
Metropolitan	19.0%	7.7%	13.7%
Rural	25.7%	9.1%	17.8%*

* Significant difference at $p < 0.01$

Note: Reference groups for significance testing were males, Year 8, healthy weight, low SES, and metropolitan.

Summary:

While the majority of students are active, a significant proportion (85%) are not engaging in sufficient levels of activity to provide health benefits. This lack of physical activity was most pronounced among female students, while there was a significant decline in activity levels as students reach the later years of secondary school. Further, those who are insufficiently active are more likely to be overweight or obese. Higher BMI may result from low levels of physical activity but may also represent a barrier to increased activity. There was an effect of home location with students residing in metropolitan areas less active than their rural counterparts.

These results indicate there is much scope for improving Australian adolescents' physical activity levels in line with recommendations. Evidence suggests the importance of positively influencing students' activity habits as they make the transition into young adulthood.⁴

References:

1. Prochaska JJ, Sallis JF & Long B. (2001). A physical activity screening measure for use with adolescents in primary care. *Archives of Pediatrics and Adolescent Medicine*, 155: 554-559.
2. Department of Health and Ageing. (2004). *Australia's Physical Activity Recommendations for 12-18 year olds*. Canberra: Commonwealth Department of Health and Ageing.
3. Australian Bureau of Statistics. (2010). *Schools Australia, 2009*. Catalogue No. 4221.0. Canberra: Australian Bureau of Statistics.
4. Patton GC, Coffey C, Carlin JB, et al. (2010). Overweight and obesity between adolescence and young adulthood: a 10-year prospective cohort study. *Journal of Adolescent Health* [Epub September 9, 2010].