



Results from the Western Australian Child and Adolescent Physical Activity and Nutrition Survey (CAPANS) 2003

General Procedures



In 2003, the Premier's Physical Activity Taskforce, Healthway and the Department of Health commissioned the University of Notre Dame Australia to undertake a Statewide survey to collect baseline data on child and adolescent physical activity behaviours, eating patterns and physiques.

This fact sheet describes the study design, sample and data collection procedures for the entire study.

For more detailed information on the physical activity, nutrition and anthropometric components of the methodology, please refer to the following fact sheets:

- CAPANS Methodology – Physical Activity;
- CAPANS Methodology – Nutrition; and
- CAPANS Methodology – Anthropometric Procedures.

For specific technical information relating to the Physical Activity and Nutrition components, or information about recommendations for future surveys, please refer to the supplementary reports: CAPANS Physical Activity Technical Report¹ and CAPANS Nutrition Technical Report².

SAMPLING FRAMEWORK

The target population was Western Australian children and adolescents in the primary school years 3, 5, and 7, and secondary school years 8, 10 and 11. The sample was structured to obtain proportional representation according to the State's population figures.

The target sample size of 2,880 participants was based on several requirements:

- the ability to detect a change of 5% in physical activity level in follow-up surveys;
- the ability to take into account intra-cluster correlations; and
- consideration of current class sizes.

SELECTION OF SCHOOLS³

- A two-stage stratified sample design was used.
- The sampling frame was divided into four strata:
 - Primary Metropolitan;
 - Primary Non-metropolitan;
 - Secondary Metropolitan; and
 - Secondary Non-metropolitan
- The sample was selected by the Australian Centre for Education Research (ACER) through systematic random sampling from the total Western Australian school population inclusive of government and non-government schools.
- Twelve schools from each of the metropolitan strata and four schools from each of the non-metropolitan strata were selected, totalling 32 schools.

- Two replacement schools were provided for each school that had similar characteristics (i.e. based on metropolitan/non-metropolitan, Government/ Independent/ Catholic and school size).
- Schools excluded include Education Support Schools; Hospital Schools; Schools with less than 90 enrolled students across the three age groups; Schools in Cocos and Christmas Islands; and any schools drawn for the Australian Adolescent Health Monitoring Survey (AAHMS)³.

SCHOOL RESPONSE RATES

- A total of 34 secondary schools were approached with 17 schools agreeing to participate, resulting in a response rate of 50%.
- A total of 26 primary schools were approached with 19 schools agreeing to participate, resulting in a response rate of 73.1%.
- Overall, 36 primary and secondary schools agreed to participate from a total of 60 schools approached. The overall response rate was 60%.

PARENTAL CONSENT

- Active consent from both parents/carers and the student was sought prior to participation in the survey.
- Information sheets and parental consent forms were provided to each school for distribution to parents.³
- The form allowed for parents or students to refuse consent to participate in the physical measurements component of the study.
- The form outlined that students were able to withdraw from participation at any time during the study.
- Students with any physical or intellectual disability were encouraged to participate in all aspects of the survey.

PARTICIPANT RESPONSE RATES

- Based on the total number of consent forms distributed per school, the average individual response rate for the study was 55.8%.
- There was no obvious trend in response rates for primary schools across the sampled years. However in secondary schools, the response rate decreased with increasing age of students and year 11 students had the poorest response rates. This may have been due to the timing of the data collection in Term 4 of the school year.

ETHICS APPROVAL

The University of Notre Dame Australia Ethics Committee approved the protocol for the study.





TIMING OF DATA COLLECTION

The data were collected during Term 3 (August 18 to September 26) and Term 4 (October 20 to December 9) of the 2003 WA school year. Weather information was collected for each school location on all data collection days.

GENERAL PROCEDURES

The research team visited each school on three occasions over nine days.

SCHOOL VISIT 1

Each student was allocated a unique identification number (ID) and provided with a survey pack containing:

- a Physical Activity Questionnaire;
- a pedometer;
- a Pedometer Diary;
- adhesive seals for the pedometer;
- a Food Record;
- measuring cups and spoons;
- a Food Frequency Questionnaire; and
- a 2B pencil.

Session 1: Physical Activity Questionnaire, Pedometer and Pedometer Diaries

- The students completed the Physical Activity Self-report Questionnaires while in class (approximately 90 minutes).
- Two research assistants discussed the purpose of the study and clarified terminology.
- After completion of the survey, the children were shown how to wear the pedometer by securing it firmly over the right hip.
- All students were shown how to complete the Pedometer Diary each day and a practice page was completed in class.

Session 2: Food Record and Food Frequency Questionnaire

- In this session (approximately 90 minutes), three trained research assistants (nutritionists) presented the 24-hour Food Record Diary to small groups of students.
- The participants were shown how to record their food intake by using practical examples, and responses were checked for the necessary level of detail.
- The Food Frequency Questionnaire was then presented. The primary school students were instructed to ask their parents to complete the forms, while the secondary students were asked to complete the questionnaire themselves overnight.

SCHOOL VISIT 2

- The day after Visit 1, a research team of five (including three nutritionists) visited the school to collect the Food Frequency Questionnaire, the 24-hour Food Record and measuring cups and spoons, and to record physical measurements.
- Two research assistants took the anthropometric measurements of height, weight and waist girth in an area where participant privacy was ensured.
- The 24-hour Food Record was checked onsite for unclear or missing information so that this could be clarified with participants.

SCHOOL VISIT 3

On the ninth day after the commencement of the survey, two research assistants visited the school to collect the pedometers and Pedometer Diaries, as well as any other survey forms or equipment that had not been collected.

PILOT TESTS

- To maximise **inter-rater reliability**, strict protocols were developed for each of the measures and all research assistants were provided with four days training prior to commencement of the data collection.
- As part of this training, all research assistants participated in piloting the data collection.

TEST PROTOCOL AND SURVEY TOOLS

- The proposed procedure for collecting the data was piloted in two primary and two secondary schools.
- At the same time, the research team conducted focus groups with students in each year group.
- As a result, several changes were made to the survey tools and the protocol (details appear in the CAPANS Technical Reports).^{1,2}

RELIABILITY OF YEAR 3 PHYSICAL ACTIVITY QUESTIONNAIRE

- Evidence of the reliability of the Physical Activity Questionnaire was established using a 7-day test-retest procedure. This was deemed important, as children under the age of 10 are less able to report activity reliably and accurately.⁴
- The Kappa Coefficient was used to compare the agreement between responses to the same question seven days apart. The Kappa Coefficient ranged from 0.098 (low agreement) to 0.827 (high agreement).

ACKNOWLEDGEMENTS

Recommendations for increasing the levels of physical activity in children as well as other key findings can be found in the CAPANS report⁵ at www.patf.dpc.wa.gov.au or by contacting the Physical Activity Taskforce Secretariat on 9382 5980.

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¹ Hands, B., Parker, H., Glasson, C., Brinkman, S. & Read, H. (2004). *Results of Western Australian Child and Adolescent Physical Activity and Nutrition Survey 2003 (CAPANS): Physical Activity Technical Report*. Perth, Western Australia: Western Australian Government.

² Hands, B., Parker, H., Glasson, C., Brinkman, S. & Read, H. (2004). *Food and Nutrient Intake of Western Australian Children and Adolescents: Report of the Western Australian Child and Adolescent Physical Activity and Nutrition Survey*. Perth, Western Australia: Western Australian Government.

³ For further details on this item please refer to the CAPANS Physical Activity Technical Report¹ and CAPANS Nutrition Technical Report².

⁴ Baranowski, T. (1988). Validity and reliability of self-report measures of physical activity: An information processing perspective. *Research Quarterly for Exercise and Sport*, 59, 314-327.

⁵ Hands, B., Parker, H., Glasson, C., Brinkman, S. & Read, H. (2004). *Physical Activity and Nutrition Levels in Western Australian Children and Adolescents: Report*. Perth, Western Australia: Western Australian Government.