

Adult Survey 2006 | Fact Sheets Methodology



Background

This series of fact sheets uses data collected for the *Physical Activity Levels of Western Australian Adults 2006* survey, conducted by the Premier's Physical Activity Taskforce (the Taskforce).¹ The fact sheets present key findings from the survey for each region of Western Australia as defined by the Department of Local Government and Regional Development, health service regions as defined by the Department of Health, and for some other categories such as age, gender, occupation and education.

Sample Framework

The target population of the survey was Western Australian adults aged 18 years and over, residing in private dwellings with telephones.

The University of Western Australia Survey Research Centre undertook the sampling of respondents and administered the survey on behalf of the Taskforce. The sampling frame was stratified by geographical location and telephone numbers randomly selected from the 2006 White Pages directory. The Kimberley/Pilbara stratum was over-sampled to provide a more representative sample of the population residing in this region.

To increase the response rate and to reduce non-response bias, approach letters were sent to respondents two weeks prior to the telephone interview. Households were then called, and the person with the most recent birthday who was at least 18 years of age was asked to participate in the survey. Surveys were conducted on weekdays and weekends, and a maximum of 10 call-backs were made at different times and days to obtain a completed interview. Data were collected during November and December 2006, using the SurveyCraft CATI system.

A total of 4,736 eligible respondents were telephoned with 3,361 completing the interview, resulting in a response rate of 71%.

Survey Instrument

The survey instrument consisted of 39 items, and a copy is available in the full report.¹ Most items included in the 2006 instrument replicated those used in the 1999 and 2002 physical activity surveys. However, the 2006 instrument also included four new items which collected data on household income, residential location (i.e. suburb, town or postcode), the receipt of the introductory letter, and whether receipt of the letter influenced participation in the survey.

Eight items captured information on the frequency and duration of participation in walking, yard work or gardening, vigorous-intensity, and moderate-intensity physical activities in the past week. Two items collected data on the types of activity and facilities used. Seven items collected information about habitual incidental physical activity (i.e. habitual activity undertaken for less than 10 minutes)² and habitual incidental activity choices such as stair climbing. Four items captured frequency and duration of participation in transport-related cycling and walking in the past week.

Information about factors that influence physical activity including physical activity readiness (i.e. using the stages of change model³), self-efficacy, knowledge about the number of minutes of moderate-intensity physical activity required for good health, and awareness of various Western Australian physical activity campaign messages was also collected. Sedentary behaviour was captured by a single item which asked respondents to estimate time spent watching television or using a computer outside of the workplace. Self-reported height and weight data were collected for use in calculations of body mass index.

Treatment of Data

The dataset was cleaned and variables recoded where necessary. Data were weighted by age, gender and geographical region against the 2001 Western Australian Census.

Self-reported physical activity is subject to measurement error due to over-reporting. In this dataset, values of greater than 840 minutes (14 hours) for each category of physical activity (i.e. walking, moderate-intensity, vigorous-intensity, and gardening or yard work) were replaced with the value of 14 hours. While 14 hours is somewhat arbitrary, this method of truncation is consistent with the 1999 and 2002 Western Australian surveys and National Active Australia recommendations.^{4,5,6}



Calculation of recommended level of physical activity

Various measures of 'recommended levels' of physical activity have been calculated based on scientific evidence on the health and fitness benefits of exercise and public health recommendations. The American College of Sports Medicine endorsed 20 minutes of vigorous-intensity exercise three times a week for the improvement of cardio-respiratory fitness, and this has been well accepted for over two decades.⁷ Research has shown health benefits can accrue from regular participation in moderate-intensity activity⁸ and both America and Australia have adopted this focus for contemporary public health initiatives. The current national recommendation is 30 minutes of moderate-intensity activity on most, if not all, days of the week and this is frequently interpreted as 150 minutes of moderate-intensity activity over at least five sessions.⁹ The definition of sufficient physical activity used in this report combines both the vigorous-intensity and moderate-intensity recommendations for health and fitness benefits.

Sufficient physical activity - 150 minutes of moderate-intensity physical activity over five or more sessions or 60 minutes of vigorous-intensity activity in the previous week.

Insufficient activity - Some activity but not enough to reach the levels required for 'sufficient'.

Inactive - No walking, moderate-intensity or vigorous-intensity physical activity in the previous week.

Data Analyses

Only descriptive statistics and results from cross-tabulations have been presented in this series of fact sheets, and all results presented in these fact sheets are based on weighted data, except for tables in the regional fact sheets giving the demographic profile of respondents.

Confidence intervals and tests of statistical significance or error were not conducted in these analyses. Those wishing to conduct further analysis of the data should contact the Taskforce on 9492 9630 to lodge an application for the full data set.

Limitations

The survey included Western Australian adults whose residence was listed in the White Pages telephone directory. Thus, respondents who did not have a telephone at home, had an unlisted telephone number or were unavailable during the survey period were excluded. Participation in the survey was voluntary, resulting in self-selection by the respondents. People who choose to participate in physical activity are motivated to do so and it could be argued that those who agreed to participate in the survey were more highly motivated than those who are less active. Furthermore, the results in this series of fact sheets are based on cross-sectional data and hence relationships between variables are not necessarily causal. However, many of the associations found in this study are consistent with the findings of other published studies that have used study designs appropriate for detecting causal relationships (i.e. randomised control trials, longitudinal studies).

In addition, seasonal variations in participation in physical activity are not accounted for in this cross-sectional study (i.e. only a spring pattern of physical activity was captured).

The criteria used to classify respondents as 'sufficiently active' in this survey included only leisure-time physical activity performed in bouts of at least 10 minutes. Incidental physical activity and gardening or yard work were also measured in the current survey; however, they have not been included in the calculation of sufficient physical activity as it has not been possible to measure duration of incidental physical activity reliably.²

Recommendations

Recommendations for increasing levels of sufficient physical activity in Western Australia, as well as key findings can be found in the report *Physical Activity Levels of Western Australian Adults 2006*.¹

This report and other useful resources can be obtained from www.beactive.wa.gov.au or by contacting the Taskforce Secretariat on 9492 9630.

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Suggested Citation: Milligan, R., McCormack, G.R., Rosenberg, M. (2009). Results from the 2006 Western Australian Physical Activity Survey: Fact Sheets Methodology. Perth, Western Australia: Western Australian Government.

¹ Milligan R, McCormack G, Rosenberg M. Physical Activity Levels of Western Australian Adults 2006. Results from the Adult Physical Activity Study. Perth, Western Australia: Western Australian Government; 2007.

² McCormack G, Giles-Corti B, Milligan R. The test-retest reliability of habitual incidental physical activity. *Australian and New Zealand Journal of Public Health* 2003;27:428-433.

³ Prochaska JO, and Marcus, BH. The Transtheoretical Model: Application to Exercise. In: Dishman RK, editor. *Advances in Exercise Adherence*. Champaign, IL: Human Kinetics; 1994.

⁴ McCormack G, Milligan R, Giles-Corti B, Clarkson JP. Physical Activity Levels of Western Australians 2002. Results from the Adult Physical Activity Survey and Pedometer Study. Perth, Western Australia: Western Australian Government; 2003.

⁵ Bull F, Milligan R, Rosenberg M, MacGowan H. Physical Activity Levels of Western Australian Adults 1999. Perth, Western Australia: Western Australian Government; 2000.

⁶ Australian Institute for Health and Welfare. The Active Australia Survey: A Guide and Manual for Implementation, Analysis and Reporting. Canberra; 2003.

⁷ American College of Sports Medicine. Position statement on the recommended quantity and quality of exercise for developing and maintaining fitness in healthy adults. *Medicine and Science in Sports and Exercise* 1978;10:vii-x.

⁸ US Department of Health and Human Services. Physical Activity and Health. A Report to the Surgeon General. Atlanta (GA): US Department of Health and Human Services; 1996.

⁹ Commonwealth Department of Health Aged Care. National Physical Activity Guidelines for Australians; 1999.