

2.22 Level of physical activity

The proportion of the Aboriginal and Torres Strait Islander adult population classified as having sedentary, low, moderate or high physical activity levels

Data sources

Data for this measure come from the 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) and the 2008 National Aboriginal and Torres Strait Islander Social Survey (NATSISS).

National Aboriginal and Torres Strait Islander Health Survey

The 2004–05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) collected information from 10,439 Indigenous Australians of all ages. This sample was considerably larger than the supplementary Indigenous samples in the 1995 and 2001 National Health Surveys. The survey was conducted in remote and non-remote areas of Australia and collected a range of information from Indigenous Australians. This included issues of health-related actions, health risk factors, health status, socioeconomic circumstances and women's health. The survey provides comparisons over time in the health of Indigenous Australians. It is planned to repeat the NATSIHS at 6-yearly intervals, with the next NATSIHS to be conducted in 2010–11. Selected non-Indigenous comparisons are available through the 2004–05 National Health Survey (NHS).

National Aboriginal and Torres Strait Islander Social Survey

The Australian Bureau of Statistics (ABS) conducted the 2002 National Aboriginal and Torres Strait Islander Social Survey (NATSISS) between August 2002 and April 2003. The 2008 NATSISS was conducted between August 2008 and April 2009. The survey provides information about the Aboriginal and Torres Strait Islander populations of Australia for a wide range of areas of social concern including health, education, culture and labour force participation. The 2008 NATSISS included for the first time children aged under 15. The NATSISS will be conducted every six years, with the next survey planned for 2013.

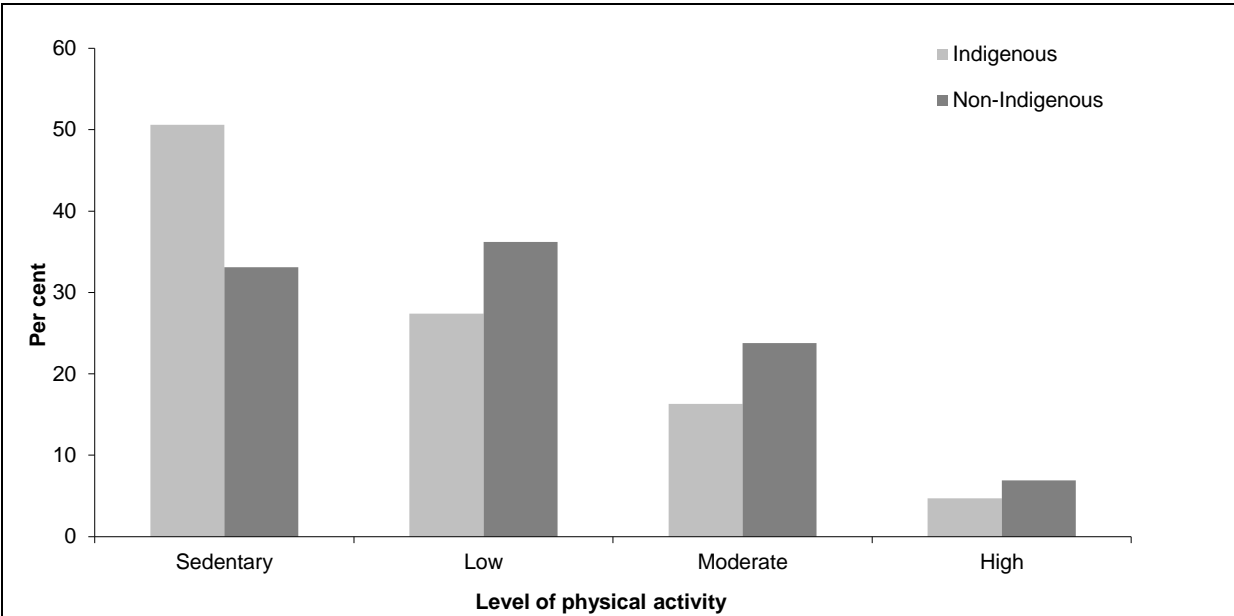
The 2008 NATSISS collected information by personal interview from 13,300 Indigenous Australians across all states and territories of Australia, including those living in remote areas. The sample covered persons aged 15 years and over who are usual residents in selected private dwellings. It collected information on a wide range of subjects including family and culture, health, education, employment, income, financial stress, housing, and law and justice.

Data analyses

Physical activity

Information on the level of physical activity of Indigenous and non-Indigenous Australians aged 15 years and over in the 2 weeks before the survey was collected in non-remote areas only and is presented below.

- In 2004–05, approximately 47% of Indigenous persons reported their exercise level as sedentary, 28% as low, 18% as moderate and 7% as high.
- After adjusting for differences in age structure, approximately 51% reported their exercise level as sedentary (very low or no exercise), 27% as low and 21% as moderate or high, compared with 33%, 36% and 31% respectively of non-Indigenous Australians (Figure 2.22.1).



Source: ABS and AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS.

Figure 2.22.1: Level of physical activity, by Indigenous status, persons aged 15 years and over, non-remote areas, 2004–05

Physical activity by age and sex

- Sedentary or low levels of physical activity were highest among Indigenous people aged 45–54 years and 55 years and over (83% and 85% respectively); moderate or high levels of physical activity were highest among those aged 15–24 and 25–34 years (32% and 27% respectively) (Table 2.22.1).
- A higher proportion of Indigenous females than Indigenous males reported that their level of exercise was sedentary (51% compared with 42%).
- A higher proportion of males exercised at moderate or high levels than females across all age groups in both the Indigenous and non-Indigenous populations.

Table 2.22.1: Level of physical activity, by Indigenous status, sex and age group, non-remote areas, 2004–05

Physical activity level	15–24		25–34		35–44		45–54		55+		Total		Total (age-standardised) ^(a)		Rate ratio
	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	
Per cent															
Males															
Sedentary	31*	23*	39*	26*	45*	34*	57*	36*	60*	39*	42*	32*	48*	32*	1.5
Low	25	30	24*	35*	30	35	20*	34*	24	30	25*	33*	24*	33*	0.7
Moderate	24	26	27	25	19	23	19 ^(b)	24	14*	27*	22	25	20*	25*	0.8
High	19	20	9*	13*	6 ^(b)	8	3 ^(b)	5	n.p.	3	10	9	7*	9*	0.8
Total number^(c)	35,604	1,330,358	23,150	1,352,832	18,468	1,418,963	13,654	1,323,380	10,995	2,147,296	101,870	7,572,828	101,870	7,572,828	..
Females															
Sedentary	46*	31*	50*	29*	51*	32*	55*	32*	60*	41*	51*	34*	53*	34*	1.6
Low	33	39	30*	42*	33*	42*	32*	42*	26	34	31*	39*	30*	39*	0.8
Moderate	15*	22*	16*	23*	14*	22*	10*	22*	12*	22*	14*	22*	13*	22*	0.6
High	5 ^(c)	8	3 ^(b)	6*	2 ^(d)	4	n.p.	3	n.p.	2	3*	4*	2*	4*	0.5
Total number^(c)	34,789	1,275,738	26,616	1,372,860	22,114	1,440,884	15,246	1,347,588	12,787	2,334,857	111,552	7,771,928	111,552	7,771,928	..
Persons															
Sedentary	39*	27*	45*	28*	48*	33*	56*	34*	60*	40*	47*	33*	51*	33*	1.5
Low	29*	34*	27*	39*	31*	39*	27*	38*	25*	32*	28*	36*	27*	36*	0.8
Moderate	20*	24*	21	24	16*	22*	14*	23*	13*	25*	18*	24*	16*	24*	0.7
High	12	14	6*	10*	4 ^(b)	6*	3 ^(b)	4	1 ^(d)	3	7	7	5*	7*	0.7
Total number^(c)	70,393	2,606,096	49,766	2,725,692	40,582	2,859,847	28,900	2,670,968	23,781	4,482,153	213,422	15,344,756	213,422	15,344,756	..

* Represents statistically significant differences in the Indigenous and non-Indigenous comparisons.

(a) Directly age-standardised proportions.

(b) Estimate has a relative standard error of between 25% and 50% and should be used with caution.

(c) Includes physical activity level not stated.

(d) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

Source: ABS and AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS.

Physical activity by state/territory

- Sedentary or low levels of physical activity among Indigenous Australians aged 15 years and over ranged from 70% in Tasmania to 78% in New South Wales (Table 2.22.2a).
- A higher proportion of Indigenous Australians than non-Indigenous Australians reported their exercise level as sedentary in all states and territories. Data were not available for non-Indigenous Australians in the Northern Territory (Table 2.22.2b).

Table 2.22.2a: Level of physical activity, by state/territory, Indigenous persons aged 15 years and over, non-remote areas, 2004–05

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Aust.
	Per cent								
Sedentary	51	38	46	46	48	37	37	40	47
Low	27	33	27	25	25	33	34	34	28
Moderate	16	22	15	24	18	22	19	20	18
High	5	6 ^(a)	9	5	6 ^(a)	8	10	7 ^(a)	7
Total^(b)	100	100	100	100	100	100	100	100	100
Total number^(b)	81,264	18,399	57,337	21,965	12,473	10,929	2,596	6,264	211,226

(a) Estimate has a relative standard error of between 25% and 50% and should be used with caution.

(b) Includes physical activity level not stated.

Source: ABS and AIHW analysis of 2004–05 NATSIHS.

Table 2.22.2b: Level of physical activity, by state/territory and Indigenous status, persons aged 15 years and over, non-remote areas, 2004–05

	NSW		Vic		Qld		WA		SA		Tas		ACT		NT ^(a)		Australia	
	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.	Indig.	Non-Indig.
	Per cent																	
Sedentary	54*	35*	42*	31*	51*	35*	52*	30*	52*	34*	38	33	37*	24*	51	n.a.	51*	33*
Low	27*	36*	32	37	27*	34*	23*	37*	25*	38*	35	36	34	40	29	n.a.	27*	36*
Moderate	15*	23*	22	24	14*	23*	22	26	17	22	21	25	23	27	16	n.a.	16*	24*
High	4*	7*	4 ^(b)	7	6	7	3*	8*	4 ^(b)	6	6	7	7	9	5 ^(b)	n.a.	5*	7*
Total^(c)	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Total number^(c)	81,264	5,208,965	18,399	3,944,895	57,337	2,899,135	21,965	1,448,876	12,473	1,164,894	10,929	352,957	2,596	252,744	6,264	n.a.	211,226	15,344,756

* Represents statistically significant differences in the Indigenous and non-Indigenous comparisons.

(a) The National Health Survey sample does not support a non-Indigenous Northern Territory estimate.

(b) Estimate has a relative standard error of between 25% and 50% and should be used with caution.

(c) Includes physical activity level not stated.

Note: Data are age-standardised.

Source: ABS and AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS.

Physical activity by selected health characteristics

- Approximately 58% of Indigenous Australians in non-remote areas with fair/poor health status reported exercising at sedentary levels compared with 48% of Indigenous Australians with excellent/very good/good health status (Table 2.22.3). Over three-quarters (78%) of Indigenous people aged 15 years and over who were overweight or obese reported exercising at low or sedentary levels. Approximately 79% of Indigenous Australians with a long-term health condition reported sedentary or low levels of physical activity.
- Approximately 59% of Indigenous Australians aged 18 years and over in non-remote areas who were current smokers reported sedentary levels of physical activity, compared with 45% of Indigenous Australians who never smoked (Table 2.22.4).

Table 2.22.3: Level of physical activity, summary health characteristics, by Indigenous status, persons aged 15 years and over, non-remote areas, 2004–05

	Self-assessed health status						Long-term conditions									Overweight/obesity					
	Excellent/very good			Fair/poor			Diabetes/high sugar levels			Heart & circulatory problems			High blood pressure			Total with long-term health condition			Overweight/obese		
	Indig.	Non-Indig.	Rate ratio ^(a)	Indig.	Non-Indig.	Rate ratio ^(a)	Indig.	Non-Indig.	Rate ratio ^(a)	Indig.	Non-Indig.	Rate ratio ^(a)	Indig.	Non-Indig.	Rate ratio ^(a)	Indig.	Non-Indig.	Rate ratio ^(a)	Indig.	Non-Indig.	Rate ratio ^(a)
	%	%		%	%		%	%		%	%		%	%		%	%		%	%	
Sedentary	48	30	1.6*	58	48	1.2*	50	35	1.4*	54	35	1.5*	59	34	1.7*	51	33	1.5*	50	32	1.5*
Low	28	37	0.8*	25	34	0.8*	26	35	0.7	29	37	0.8*	30	39	0.8	28	37	0.8*	28	37	0.8*
Moderate	18	25	0.7*	14	16	0.9	17 ^(b)	23	0.7	14	23	0.6*	9 ^(b)	23	0.4*	16	24	0.7*	15	24	0.6*
High	5	7	0.7*	2 ^(b)	3	0.6	5 ^(c)	6 ^(b)	0.8	2 ^(c)	5	0.4*	— ^(c)	4 ^(b)	0.1*	4	7	0.7*	6	7	0.9
Total^(d)	100	100	..	100	100	..	100	100	..	100	100	..	100	100	..	100	100	..	100	100	..

* Represents results with statistically significant differences in the Indigenous/non-Indigenous comparisons.

(a) Indigenous rate divided by non-Indigenous rate.

(b) Estimate has a relative standard error of between 25% and 50% and should be used with caution.

(c) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

(d) Includes physical activity level not stated.

Note: Data are age-standardised.

Source: ABS and AIHW analysis of 2004–05 NATSIHS and 2004–05 NHS.

Table 2.22.4: Level of physical activity by smoker and Indigenous status, persons aged 18 years and over, non-remote areas, 2004–05

	Current smoker			Ex-smoker			Never smoked		
	Indigenous	Non-Indigenous	Rate ratio ^(a)	Indigenous	Non-Indigenous	Rate ratio ^(a)	Indigenous	Non-Indigenous	Rate ratio ^(a)
	%	%		%	%		%	%	
Sedentary	59	44	1.3	46	29	1.6	45	32	1.4
Low	24	32	0.7	30	38	0.8	32	38	0.9
Moderate	14	20	0.7	20	26	0.8	14	23	0.6
High	3	4	0.7	4	7	0.5	7	7	1.0
Total^(b)	100	100	..	100	100	..	100	100	..

(a) Indigenous rate divided by non-Indigenous rate.

(b) Includes physical activity level not stated.

Note: Data are age-standardised.

Source: AIHW analysis of 2004–05 NATSIHS.

Time series analyses

- The level of sedentary physical activity for Indigenous Australians aged 15 years and over increased between 2001 and 2004–05 from 37% to 47%. The level of low and moderate physical activity declined over the period (from 57% in 2001 to 46% in 2004–05), and the level of high physical activity remained the same (7%) (Figure 2.22.2).
- After adjusting for differences in age structure, the disparity between Indigenous and non-Indigenous Australians in the proportion reporting sedentary levels of exercise was larger in 2004–05 than in 2001 (Table 2.22.5).

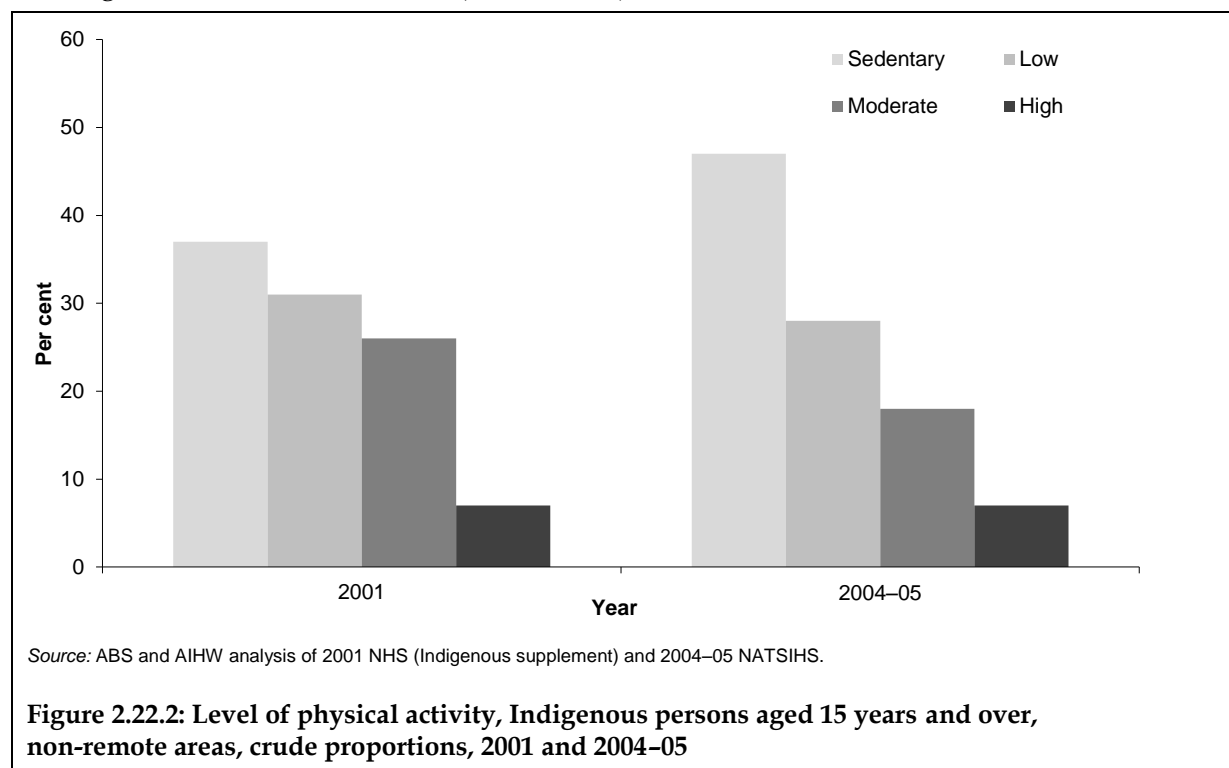


Table 2.22.5: Level of physical activity, persons aged 15 years and over, by Indigenous status, non-remote areas, age standardised proportions, 2001 and 2004-05

	2001		2004-05	
	Indigenous	Non-Indigenous	Indigenous	Non-Indigenous
	Per cent			
Sedentary	42	31	51	33
Low	29	38	27	36
Moderate	24	24	16	24
High	5	7	5	7
Total number	197,086	14,744,464	213,422	15,344,756

Note: Data are age-standardised.

Source: ABS and AIHW analysis of 2001 NHS (Indigenous supplement), 2004–05 NATSIHS and 2004–05 NHS.

Physical activity in Indigenous children

Data on the level of physical activity in Indigenous children aged 4-14 years are presented in tables 2.22.6, 2.22.7 and 2.22.8 for 2008.

- During 2008, 74% of Indigenous children aged 4-14 years were physically active for at least 60 minutes every day in the week before the survey. Only 3% of Indigenous children aged 4-14 years were not active at all in the previous week (Table 2.22.6).
- During 2008, Western Australia had the highest percentage of Indigenous children aged 4-14 years who were active every day for at least 60 minutes (80%) and Victoria had the lowest (67%) (Table 2.22.7).
- Western Australia and Tasmania had the highest percentage of Indigenous children aged 4-14 years who participated in any level of physical activity everyday (80% for both) and the Australian Capital Territory had the lowest (59%) (Table 2.22.8).

Table 2.22.6: Number of days last week when child was physically active for at least 60 minutes, Indigenous children aged 4-14, 2008

	Number	Per cent
1 day	2,682	1.9
2 days	5,920	4.3
3 days	6,898	5.0
4 days	4,619	3.3
5 to 6 days	11,691	8.4
Everyday	103,279	74.3
No days	3,970	2.9
Total^(a)	139,060	..
<i>Not known</i>	308	..

(a) Excludes not known responses.

Source: 2008 NATSISS.

Table 2.22.7: Number of days last week when child was physically active for at least 60 minutes, by state/territory, Indigenous persons aged 4-14 years, 2008

	NSW	Vic	Qld	WA	SA	Tas/ACT	NT	Aust
	Per cent							
0-2 days	13.1	13.1	6.4 ^(a)	7.3	7.3	6.9 ^(a)	6.3	9.0
3-4 days	9.5	9.8	6.8 ^(a)	7.3	9.1	11.4	7.6	8.3
5 to 6 days	9.6	10.3	8.8	5.5 ^(a)	8.0 ^(a)	5.5 ^(a)	8.1	8.4
Everyday	67.8	66.8	78.1	80.0	75.6	76.2	78.0	74.3
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Not known	0.3 ^(b)	0.0	0.0	0.2 ^(b)	0.3 ^(b)	0.0	0.8 ^(b)	0.2 ^(b)
Total number	42,186	9,007	39,752	18,813	7,572	5,906	16,133	139,369

(a) Estimate has a relative standard error between 25% and 50% and should be used with caution.

(b) Estimate has a relative standard error greater than 50% and is too high for most practical purposes.

Source: 2008 NATSISS.

Table 2.22.8: Level of physical activity, by state/territory, Indigenous children aged 4-14 years, 2008

	NSW	Vic	Qld	WA	SA	Tas	ACT	NT	Australia
	Per cent								
1-3 days	14.5	16.2	8.7	9.2	8.4	10.0	18.8	9.1	11.1
3-6 days	13.2	12.4	12.0	8.0	13.6	8.8 ^(a)	13.6 ^(a)	11.1	11.7
Everyday	67.8	67.4	77.6	80.2	75.5	79.8	58.7	78.3	74.3
No days	4.5 ^(a)	3.9 ^(a)	1.6 ^(a)	2.6 ^(a)	2.6 ^(a)	1.3 ^(b)	9.0 ^(a)	1.6 ^(a)	2.9
Total participating	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

(a) Estimate has a relative standard error between 25% and 50% and should be used with caution.

(b) Estimate has a relative standard error greater than 50% and is considered too unreliable for general use.

Source: 2008 NATSISS.

Data quality issues

National Aboriginal and Torres Strait Islander Social Survey

The NATSISS is conducted in all states and territories and includes remote and non-remote areas. The 2008 sample was 13,300 persons in 6900 households, with a response rate of 82% of households. Up to three randomly selected Indigenous people were chosen from selected households to participate in the survey. Trained ABS interviewers conducted the survey using face-to-face interviews. In non-remote areas interviewers used a notebook computer to record responses, while in remote areas a paper questionnaire was used. Interviewers obtained the consent of a parent or guardian before interviewing those aged 15 to 17 years. Indigenous persons usually resident in non-private dwellings such as hotels, motels, hostels, hospitals, short-stay caravan parks, prisons and other correctional facilities were excluded.

The NATSISS uses the standard Indigenous status question. The NATSISS sample was specifically designed to select a representative sample of Aboriginal and Torres Strait Islander Australians.

As with other surveys, the NATSISS is subject to sampling and non-sampling errors. Care has been taken to ensure that the results of this survey are as accurate as possible. Trained ABS officers conducted all interviews. However, some factors may affect the reliability of the data.

Information recorded in this survey is 'as reported' by respondents, and therefore may differ from information available from other sources or collected using different methodologies.

Data on health-related indicators have been age-standardised to the 2001 total Australian population to account for differences in the age structures of the states and territories and the Indigenous and non-Indigenous population.

Time series comparisons for the 2008 survey are available through the 1994 National Aboriginal and Torres Strait Islander Survey and the 2002 NATSISS. However not all data elements align across the three (1994, 2001 and 2008) NATSISS surveys, hence care is required when reviewing results across the three surveys. There are no strictly comparable non-Indigenous results available for the 2008 NATSISS because the latest General Social Survey (which has been used in the past to compare with Indigenous results from the NATSISS) was run in 2006, with the next being run in 2010-11. Data from other ABS surveys run in 2008 may, however, be used to obtain rough non-Indigenous comparisons for some data items. Where possible, the ABS has provided recommendations for non-Indigenous data comparisons and these have been adopted in this report.

The 2008 NATSISS has a relatively large level of under-coverage when compared to other ABS surveys. There was also an increase in under-coverage compared to previous ABS Indigenous surveys. For example, the estimated under-coverage in the 2004-05 National Aboriginal and Torres Strait Islander Health Survey (NATSIHS) was 42%. The overall under-coverage rate for the 2008 NATSISS is approximately 53% of the in-scope population at the national level. This rate varies across the states and territories (ABS 2010).

Further information on NATSISS data quality issues can be found in the *National Aboriginal and Torres Strait Islander Social Survey: User's guide 2008* (ABS 2010).

Physical activity data

The information is 'as reported' by respondents and reflects their perception of the activity undertaken, the intensity of their participation, their level of fitness, and so on. Information about physical activity that persons aged 15 to 17 years undertook was reported by an adult

within the household, usually a parent. The child may or may not have been consulted. As a result, data for this age group should be interpreted with particular care.

In general, the use of a 2-week reference period was not considered to pose significant recall problems for respondents. For many people, participation in exercise is regular and/or for a set period each session. However, to the extent that persons undertook exercise in less formal circumstances or that the reference period was atypical of usual exercise patterns, the accuracy of the information provided may have been affected.

Recent developments in the area of statistics on exercise or physical activity have tended to move away from the use of metabolic equivalent level (MET) values in deriving exercise level, and have placed more emphasis on measures of time spent exercising. Retention of the exercise level approach as described above was mainly for the purpose of consistency and comparability with data from the 1995 and 2001 National Health Surveys. However, measures of time exercising are also available as outputs from this survey (ABS 2005).

Survey respondents are required to recall recent activity in minutes without being primed and without independent checks. Diary recording (as used in the ABS Time Use Survey) or independent observation would probably produce higher quality data; however, these are more resource-intensive.

Respondents are required to provide an estimate of time spent on certain types of activity. Many come up with a broad rounded estimate or guess. Others attempt to add together in their heads the time spent in each exercise session, possibly for several different activities.

The differences of intensity between different activities is not always clear for respondents, although explanatory instructions are included. Mutual exclusivity of concepts remains a problem.

A well-recognised reporting issue for self-report surveys is the tendency of respondents to report in a socially desirable way. For example, the less active may want to over-report activity to appear healthier.

Survey questions about duration of exercise differ slightly in the questionnaire for remote areas and may affect the comparability of results.

Despite the limitations of the survey data, users have generally considered the data produced to be of sufficient quality for the very broad measures of physical activity required (ABS 2005).

A reliable tool for measuring Aboriginal and Torres Strait Islander physical activity levels has not yet been developed. A study to determine the reliability of the Active Australian Survey in measuring Aboriginal and Torres Strait Islander populations revealed that it was not a reliable tool (not culturally appropriate) (Marshall & Miller 2004). The Active Australian Survey uses very similar questions to the National Health Survey to determine physical activity levels. For this reason the data should be interpreted cautiously.

List of symbols used in tables

n.a.	not available
–	rounded to zero (including null cells)
0	zero
..	not applicable
n.e.c.	not elsewhere classified
n.f.d.	not further defined
n.p.	not available for publication but included in totals where applicable, unless otherwise indicated

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