



Supporting Information

Supplementary results

**This appendix was part of the submitted manuscript and has been peer reviewed.
It is posted as supplied by the authors.**

Appendix to: Champion KE, Chapman C, Gardner LA, et al; the Heath4Life team. Lifestyle risks for chronic disease among Australian adolescents: a cross-sectional survey. *Med J Aust* 2022; doi: 10.5694/mja2.51333.

Table 1. Selected socio-demographic characteristics of the 6640 students aged 11–14 years who participated in the Health4Life survey

	Health4Life sample		ABS data for people aged 11–14 years
	Students	Proportion	
Sex			
Boys	3311	50.6% (41.7–59.5%)	51.3% ¹
Girls	3204	48.9% (40.1–57.8%)	48.6% ¹
Non-binary/gender-fluid	30	0.5% (0.3–0.6%)	—
No response/missing data	95	—	—
Age (years)			
11	9	0.1% (0.0–0.2%)	—
12	2365	35.8% (32.5–39.2%)	—
13	4158	63.0% (59.8–66.2%)	—
14	71	1.1% (0.6–1.5%)	—
No response/missing data	37	—	—
State			
New South Wales (<i>N</i> = 37)	3536	53.2% (39.2–67.3%)	49.2% ²
Queensland (<i>N</i> = 18)	1789	26.9% (14.3–39.6%)	34.0% ²
Western Australia (<i>N</i> = 16)	1315	19.8% (9.7–29.9%)	16.8% ²
Country of birth			
Australia	5687	85.9% (83.0–88.8%)	84.5%* ¹
Other: English-speaking	416	6.3% (4.7–7.9%)	—
Other: non-English speaking	519	7.8% (5.6–10.1%)	—
No response/missing data	18	—	—
Main language spoken at home			
English	6068	91.7% (88.6–94.8%)	—
Other	551	8.3% (5.2–11.4%)	—
No response/missing data	21	—	—
School type			
Government (<i>N</i> = 24)	2003	30.1% (17.2–42.9%)	57.2% ^{†1}
Independent (<i>N</i> = 37)	3378	50.9% (36.7–65.1%)	19.4% ^{†1}
Catholic (<i>N</i> = 10)	1259	19.0% (6.6–31.3%)	23.4% ^{†1}
Remoteness [‡]			
Major city	5954	89.7% (82.8–96.5%)	—
Inner or outer regional	686	10.3% (3.5–17.2%)	—
Socio-economic status [§]			
Lower	909	15.1% (12.6–17.6%)	—
Middle	2209	36.7% (34.3–39.1%)	—
Upper	2897	48.2% (44.2–52.1%)	—
No response/missing data	625	—	—

ABS = Australian Bureau of Statistics.

* 5–14 years. † Australian schools. ‡ Australian Statistical Geography Standard.³ § Family Affluence Scale (FAS) III.⁴ Scores were converted to ridity scores that compared socio-economic status with other people in study sample, and classified as low (ridit < 0.2), middle (ridit, 0.2–5.9), or upper socio-economic status (ridit, 0.6–1.0)

References

1. Australian Bureau of Statistics. 2016 census community profiles. Updated 30 Oct 2020.
https://quickstats.censusdata.abs.gov.au/census_services/getproduct/census/2016/communityprofile/036?opendocument (viewed Oct 2021).
2. Australian Bureau of Statistics. National, state and territory population, reference period March 2021. Data downloads: time series spreadsheets. 16 Sept 2021.
<https://www.abs.gov.au/statistics/people/population/national-state-and-territory-population/latest-release#data-download> (viewed Oct 2021).
3. Australian Bureau of Statistics. 1270.0.55.005. Australian Statistical Geography Standard (ASGS): volume 5. Remoteness structure, July 2016. Updated 16 Mar 2018.
<https://www.abs.gov.au/ausstats/abs@.nsf/mf/1270.0.55.005> (viewed Oct 2021).
4. Torsheim T, Cavallo F, Levin KA, et al. Psychometric validation of the revised family affluence scale: a latent variable approach. *Child Indic Res* 2016; 9: 771-784.

Table 2. Risk behaviours, by sex

Risk behaviour	Boys		Girls		Non-binary/gender fluid	
	n	% (95% CI)	n	% (95% CI)	n	% (95% CI)
Recreational screen time (>2 hours/day television or electronic devices) (n=6397)	2840/3225	88.1% (86.4-89.7%)	2628/3144	83.4% (80.9-86.2%)	27/28	96% (89-100%)
>2 hours/day television (n=6405)	1712/3229	53.0% (50.1-55.9%)	1434/3148	45.6% (42.1-49.0%)	14/28	50% (30-70%)
>2 hours/day electronic devices (n=6398)	1890/3226	58.6% (56.0-61.2%)	1680/3144	53.4% (49.8-57.0%)	16/28	57% (37-77%)
Poor diet (composite of SSB, low fruit, low veg, discretionary foods) (n= 5744)	1575/2867	54.9% (52.0-57.8%)	1289/2850	45.2% (42.9-47.6%)	15/27	56% (36-75%)
SSB consumption (>5 cups a week) (n=6384)	482/3217	15.0% (13.1-16.8%)	201/3139	6.4% (4.9-7.9%)	7/28	25% (7.2-43%)
Insufficient fruit intake (<2 serves/day) (n=6362)	844/3204	26.3% (23.5-29.2%)	611/3130	19.5% (17.6-21.4%)	9/28	31% (13-52%)
Insufficient vegetable intake (<5 serves/day) (n=6357)	2678/3200	83.7% (81.9-85.5%)	2599/3129	83.1% (81.8-84.3%)	24/28	86% (68-100%)
Discretionary food items (>1 serve/day) (n=5660)	1221/2804	43.5% (40.8-46.3%)	1100/2829	38.9% (36.5-41.3%)	12/27	44% (27-62%)
Poor sleep duration (outside recommended guidelines*) (n=5944)	1804/2934	61.5% (58.7-64.2%)	1810/2985	60.6% (57.1-64.1%)	21/25	84% (70-98%)
Alcohol use (any use in past 6 months) (n=6264)	120/3145	3.8% (2.8-4.8%)	55/3091	1.8% (1.2-2.3%)	2/28	7% (0-17%)
Tobacco use (any use in past 6 months) (n=6226)	61/3119	2.0% (1.3-2.6%)	29/3079	0.9% (0.6-1.3%)	3/28	10% (0-22%)
Insufficient MVPA (<60min/day) (n=6316)	2312/3170	72.9% (71.2-74.7%)	2569/3118	82.4% (81.2-83.6%)	25/28	89% (78-100%)

SSB: Sugar sweetened beverage consumption; MVPA: moderate to vigorous physical activity.

Note: missing data were excluded. Size of analysed sample for each risk behaviour provided in brackets.

* ≤ 13 years old: 9 to 11 hours/night, 14–17 years: 8 to 10 hours/night.¹

Reference

1. Australian Department of Health. Australian 24-hour movement guidelines for children and young people (5 to 17 years): an integration of physical activity, sedentary behaviour, and sleep. Apr 2019. <https://www.health.gov.au/resources/publications/australian-24-hour-movement-guidelines-for-children-5-to-12-years-and-young-people-13-to-17-years-an-integration-of-physical-activity-sedentary-behaviour-and-sleep> (viewed Oct 2021).

Table 3. Risk behaviours, by remoteness

Risk behaviour	Major city		Regional	
	n	% (95% CI)	n	% (95% CI)
Recreational screen time (>2 hours/day television or electronic devices) (n=6478)	5038/5828	86.4% (84.4-88.4%)	527/650	81.1% (77.5-84.6%)
>2 hours/day television (n=6486)	2916/5835	50.0% (47.2-52.7%)	292/651	44.9% (38.3-51.4%)
>2 hours/day electronic devices (n=6479)	3321/5828	57.0% (54.1-59.8%)	315/651	48.4% (43.3-53.5%)
Poor diet (composite of SSB, low fruit, low veg, discretionary foods) (n= 5815)	2673/5249	46.0% (48.3-53.5%)	247/566	43.6% (35.7-51.6%)
SSB consumption (>5 cups a week) (n=6466)	636/5818	10.9% (9.0-12.8%)	69/648	10.6% (5.4-15.9%)
Insufficient fruit intake (<2serves a day) (n=6444)	1361/5803	23.4% (21.2-25.7%)	131/641	30.4% (14.7-26.2%)
Insufficient vegetable intake (<5serves a day) (n=6439)	4849/5800	83.6% (82.5-84.8%)	514/639	80.4% (75.6-85.3%)
Discretionary food items (>1 serve per day) (n=5728)	2165/5168	41.9% (39.7-44.0%)	192/560	34.3% (27.6-40.9%)
Poor sleep (outside recommended guidelines*) (n=6010)	3328/5394	61.7% (59.1-64.3%)	354/616	57.5% (54.4-60.5%)
Alcohol use (any use in past 6 months) (n=6346)	145/5724	2.5% (1.9-3.2%)	36/622	5.8% (2.5-9.1%)
Tobacco use (any use in past 6 months) (n=6306)	83/5688	1.5% (1.0-1.9%)	14/618	2.3% (0.6-3.9%)
Insufficient MVPA (<60min/day) (n=6398)	4487/5765	77.8% (76.2-79.5%)	482/633	76.1% (72.0-80.3%)

SSB: Sugar sweetened beverage consumption; MVPA: moderate to vigorous physical activity.

Note: missing data were excluded. Size of analysed sample for each risk behaviour provided in brackets.

* ≤ 13 years old: 9 to 11 hours/night, 14–17 years: 8 to 10 hours/night.¹

Reference

1. Australian Department of Health. Australian 24-hour movement guidelines for children and young people (5 to 17 years): an integration of physical activity, sedentary behaviour, and sleep. Apr 2019. <https://www.health.gov.au/resources/publications/australian-24-hour-movement-guidelines-for-children-5-to-12-years-and-young-people-13-to-17-years-an-integration-of-physical-activity-sedentary-behaviour-and-sleep> (viewed Oct 2021).

Table 4. Risk behaviours, by relative socio-economic status

Risk behaviour	Lower SES		Middle SES		Higher SES	
	n	% (95% CI)	n	% (95% CI)	n	% (95%CI)
Recreational screen time (>2 hours/day television or electronic devices) (n=5997)	790/906	87.2% (84.4-90.0%)	1898/2200	86.3% (83.8-88.7%)	2454/2891	84.9% (82.7- 87.1%)
>2 hours/day television (n=6000)	488/907	53.8% (49.6-58.0%)	1095/2201	49.8% (46.5-53.0%)	1374/2892	47.5% (44.5-50.5%)
>2 hours/day electronic devices (n=5998)	555/906	61.3% (56.6-65.9%)	1247/2201	56.7% (53.1-60.3%)	1545/2891	53.4% (50.7-56.2%)
Poor diet (composite of SSB, low fruit, low veg, and discretionary foods) (n= 5659)	448/858	52.2% (48.1-56.3%)	1073/2085	51.5% (48.0-54.9%)	1296/2716	47.7% (45.4-50.0%)
SSB consumption (>5 cups a week) (n=6012)	138/909	15.2% (11.9-18.5%)	229/2206	10.4% (8.5-12.2%)	272/2897	9.4% (7.3-11.4%)
Insufficient fruit intake (<2 serves a day) (n=6012)	236/909	26.0% (22.7-29.2%)	532/2207	24.1% (21.7-26.5%)	615/2896	21.2% (19.2-23.3%)
Insufficient vegetable intake (<5 serves a day) (n=6013)	757/909	83.3% (80.9-85.7%)	1864/2207	84.5% (82.6-86.3%)	2393/2897	82.6% (81.2-84.0%)
Discretionary food items (>1 serve per day) (n=5621)	345/853	40.4% (37.3-43.6%)	876/2069	42.3% (39.2-45.4%)	1085/2699	40.2% (37.8-42.6%)
Poor sleep (outside recommended guidelines*) (n=5538)	498/787	63.3% (59.3-67.2%)	1209/2046	59.1% (56.5-61.3%)	1683/2705	62.2% (59.1-65.3%)
Alcohol use (any use in past 6 months) (n=6010)	41/909	4.5% (2.5-6.4%)	49/2205	2.2% (1.5-3.0%)	77/2896	2.7% (1.9-3.4%)
Tobacco use (any use in past 6 months) (n=6003)	31/907	3.4% (2.1-4.7%)	34/2202	1.5% (1.0-2.1%)	26/2894	0.9% (0.5-1.3%)
Insufficient MVPA (<60min/day) (n=6009)	696/907	76.7% (73.2-80.2%)	1743/2205	79.0% (76.8-81.3%)	2230/2897	77.0% (75.0-79.0%)

SSB: Sugar sweetened beverage consumption; MVPA: moderate to vigorous physical activity; SES: socio-economic status.

Note: missing data were excluded. Size of analysed sample for each risk behaviour provided in brackets.

* ≤ 13 years old: 9 to 11 hours/night, 14–17 years: 8 to 10 hours/night.¹

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1. Australian Department of Health. Australian 24-hour movement guidelines for children and young people (5 to 17 years): an integration of physical activity, sedentary behaviour, and sleep. Apr 2019. <https://www.health.gov.au/resources/publications/australian-24-hour-movement-guidelines-for-children-5-to-12-years-and-young-people-13-to-17-years-an-integration-of-physical-activity-sedentary-behaviour-and-sleep> (viewed Oct 2021).

Table 5. Prevalence ratios (with 95% confidence intervals) of lifestyle risk factors among 6640 students aged 11–14 years in the Health4Life study by socio-demographic characteristics

	Prevalence Ratio	Lower 95% CI	Upper 95% CI
Recreational screen time (>2 hours/day television or electronic devices)			
Male v Female	1.04	1.01	1.06
Major City v Regional Area	1.07	0.99	1.16
Middle SES v Lower SES	1.01	0.98	1.04
Upper SES v Lower SES	1.01	0.98	1.04
Poor sleep (outside recommended guidelines*)			
Male v Female	0.98	0.94	1.03
Major City v Regional Area	1.07	0.96	1.19
Middle SES v Lower SES	0.95	0.89	1.02
Upper SES v Lower SES	1.00	0.94	1.07
Poor diet (composite of SSB, low fruit, low veg, discretionary foods)			
Male v Female	1.15	1.08	1.23
Major City v Regional Area	1.20	1.03	1.40
Middle SES v Lower SES	1.01	0.93	1.10
Upper SES v Lower SES	0.96	0.88	1.04
Alcohol use (any use in past 6 months)			
Male v Female	1.82	1.25	2.64
Major City v Regional Area	0.42	0.22	0.80
Middle SES v Lower SES	0.56	0.36	0.87
Upper SES v Lower SES	0.80	0.53	1.21
Tobacco use (any use in past 6 months)			
Male v Female	1.94	1.21	3.12
Major City v Regional Area	0.82	0.41	1.64
Middle SES v Lower SES	0.49	0.30	0.81
Upper SES v Lower SES	0.33	0.19	0.57
Insufficient MVPA (<60min/day)			
Male v Female	0.88	0.85	0.91
Major City v Regional Area	1.01	0.96	1.06
Middle SES v Lower SES	1.02	0.98	1.07
Upper SES v Lower SES	0.99	0.95	1.03

SSB: Sugar sweetened beverage consumption; MVPA: moderate to vigorous physical activity; SES: socio-economic status.

* ≤ 13 years old: 9 to 11 hours/night, 14–17 years: 8 to 10 hours/night.¹

Reference

1. Australian Department of Health. Australian 24-hour movement guidelines for children and young people (5 to 17 years): an integration of physical activity, sedentary behaviour, and sleep. Apr 2019. <https://www.health.gov.au/resources/publications/australian-24-hour-movement-guidelines-for-children-5-to-12-years-and-young-people-13-to-17-years-an-integration-of-physical-activity-sedentary-behaviour-and-sleep> (viewed Oct 2021).

Table 6. Classification of schools by Index of Community Socio-Educational Advantage (ICSEA)*

ICSEA	Health4Life schools	All Australian schools
Schools in Q1 (Highest)	36 (51%)	25%
Schools in Q2 (Upper Middle)	24 (34%)	25%
Schools in Q3 (Lower Middle)	7 (10%)	25%
Schools in Q4 (Lowest)	4 (6%)	25%

* Higher scores indicate higher socio-educational advantage.

Reference

Australian Curriculum, Assessment and Reporting Authority (ACARA). Guide to understanding the Index of Community Socio-educational Advantage (ICSEA). <https://www.myschool.edu.au/media/1820/guide-to-understanding-icsea-values.pdf> (viewed Oct 2021).