Supplemental material

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Supplementary file 1: Outcomes, exposures, and confounders

Variable	Questions in HILDA[1]	Categories in HILDA[1]	Our derivation process	Final response options
Breakfast	*How often in a usual week do you buy breakfast from a restaurant, café, fast food outlet, or any other place that prepares and sells meals?*	0-7 (times/week)	N/A	0-7 (times/week)
Lunch	*And how often do you buy lunch?*	0-7 (times/week)	N/A	0-7 (times/week)
Dinner	*And how often do you buy dinner (i.e., the evening meal)?* *'Meals' mean more than a beverage or a snack food (like a chocolate bar).*	0-7 (times/week)	N/A	0-7 (times/week)
Total food out	N/A	N/A	All three eating occasions were summed.	0-21 (times/week)
Fruit	*Including tinned, frozen, dried and fresh fruit, on how many days in a usual week do you eat fruit?"* Respondents who had positive frequencies were asked to quantify their intake. *On a day when you eat fruit, how many serves of fruit do you usually eat? (As a rough guide, one serve is equal to one medium sized piece of fruit or two small pieces of fruit or one cup of diced fruit pieces.)*	0 ("Do not eat fruit in a usual week") 1-7 (days/week) "1" to "6 or more" serves.	"Six or more" was treated as a numeric value of six. Frequencies and quantities were multiplied to calculate total weekly intake and then divided by 7 to reflect average daily intake of fruit. *	0-6 (serves/day)
Vegetables	*Including tinned, frozen and fresh vegetables, on how many days in a usual week do you eat vegetables? Please do not include chips or French fries.* Respondents who had positive frequencies were asked to quantify their intake. *On a day when you eat vegetables, how many serves of vegetables do you usually eat? As a rough guide, one serve is equal to a half a cup of cooked vegetables (or one cup of salad vegetables)."*	0 ("Do not eat vegetables in a usual week") to 7 (days/week) "1" to "6 or more" serves.	"Six or more" was treated as a numeric value of six. Frequencies and quantities were multiplied to calculate total weekly intake and then divided by 7 to reflect average daily intake of vegetables. *	0-6 (serves/day)
Work hours	*How much time would you spend on each of the following activities in a typical week?* *A. Paid employment.*	Hours/week	N/A	Hours/week
Commute hours	*How much time would you spend on each of the following activities in a typical week?* *B. Travelling to and from a place of paid employment."*	Hours/week	N/A	Hours/week
Combined work and commute hours	N/A	N/A	Both work hours and commute time were summed.	Hours/week
Age	Age at last birthday as of 30 June immediately preceding the fieldwork for that wave	Years	N/A	Years
Sex	Sex	Male Female	N/A	Male Female
Education	Derived from multiple questions relating to qualifications	1 "Postgrad, masters or doctorate" 2 "Grad diploma, grad certificate" 3 "Bachelor or honours" 4 "Adv diploma, diploma" 5 "Cert III or IV" 8 "Year 12" 9 "Year 11 and below"	A new variable "No tertiary education" was derived combining categories 4, 5, 8, and 9 in HILDA, and "Tertiary education" was derived combining categories 1 to 3 in HILDA.	No tertiary education Tertiary education
Household composition	Counts of the number of persons in the household in various age groups. The ages are calculated as at June 30 of the interview year	Count	Combinations were created using the number of persons aged over 12 years at June 30 and the number of	Single person: One person aged >15 years, no children <15 years

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			persons aged 0-14 years in the household.	Single parent: One person aged >15 years, at least one child <15 years Multi-person without children: Two or more people aged >15 years, no children <15 years Multi-person with children: Two or more people aged >15 years, at least one child <15 years
Remoteness area	Derived from household information	0 Major Cities of Australia 1 Inner Regional Australia 2 Outer Regional Australia 3 Remote Australia 4 Very Remote Australia	Most categories were kept as is, only categories 3 and 4 were combined due to low cell counts/numbers of participants residing in these areas.	Major Cities of Australia Inner Regional Australia Outer Regional Australia Remote Australia or Very Remote Australia
Neighbourhood socio-economic status	Derived from household information SEIFA: Decile of Index of Advantage/Disadvantage this index is a continuum of advantage to disadvantage, looks at proportion of families with high incomes, people with a tertiary education, and people employed in a skilled occupation[2]	1 Lowest decile 2 2nd decile 3 3rd decile … 9 9th decile 10 Highest decile	N/A	1 Lowest decile 2 2nd decile 3 3rd decile … 9 9th decile 10 Highest decile
Work schedule	*Which of these best describes your current work schedule in your (main) job?*	1 A regular daytime schedule 2 A regular evening shift 3 A regular night shift 4 A rotating shift (changes from days to evenings to nights) 5 Split shift (two distinct periods each day) 6 On call 7 Irregular schedule 8 Other	All categories from 2 to 8 were combined, capturing a schedule different from a regular daytime (category 1)	1 A regular daytime schedule 2 Other

N/A: not applicable; *A similar approach has been used in previous research using HILDA data[3].

References

1   Summerfield M, Bright S, Hahn M, *et al.* HILDA User Manual – Release 18. Melbourne: Melbourne Institute: Applied Economic and Social Research, University of Melbourne 2019.

2   Australian Bureau of Statistics. Socio-Economic Indexes for Areas. 2018.

3   Mujcic R, J.Oswald A. Evolution of Well-Being and Happiness After Increases in Consumption of Fruit and Vegetables. *Am J Public Health* 2016;**106**:1504-10.