

PILOT STUDY SNAPSHOT



The Australian Prevention Partnership Centre
Systems and solutions for better health



About the study

The Western Sydney Adolescent Health Study: A pilot study of behavioural factors associated with overweight and obesity

The pilot study is part of a broader Prevention Centre project, Harnessing big data and dynamic simulation modelling to tackle child and adolescent overweight and obesity and unsustainable healthcare expenditure in Australia.



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Want to know more?

Download a copy of the final report on the pilot study here or contact the Prevention Centre at: preventioncentre@saxinstitute.org.au

Project team

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How does adolescents' behaviour affect their weight?



What is the problem?

Habits developed in childhood and adolescence can carry on into adulthood and increase risk for chronic disease. We needed to know more about adolescents' behaviour around diet and physical activity, and how these change over time.



What did we do?

We used a mobile phone app to collect data on specific health behaviours in 1,298 adolescents aged 13–19 years in Western Sydney.



What did we find?

Very few young people are getting enough exercise, fruits and vegetables. Most young people are sitting for long periods and exceeding screen time guidelines. Healthy habits decreased as adolescents got older. Spending more time on screen and having a high body weight was associated with less healthy eating and less physical activity. Young people with higher wellbeing and social connectedness also had healthier eating and physical activity behaviours.

Background

Overweight and obesity in Australian children and adolescents is a significant public health challenge. In 2014–2015, more than 25% of children aged 5–17 years were overweight or obese.

Health behaviours in adolescence often continue into adulthood, contributing to the burden of chronic disease in Australia. But we do not know enough about dietary behaviour and physical activity in adolescents. That's because this data has been difficult to capture from young people using traditional research methods such as lengthy school-based surveys and telephone interviews that rely on landlines (most no longer access a landline).

The Western Sydney Adolescent Health pilot study used the Ethica mobile phone app, an innovative research platform that allowed researchers to observe participant behaviour continuously using smartphones (android and iPhone). Participants were asked to input data about their behaviour by answering a survey and then filling in short questions several times a week. The app could also use the phone sensor to track participants' location, movements and screen use (only with their consent).

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Who they were

- 1298 participants
- 13–19 years old
- 81% female, 19% male
- 46% finished school
- 15% spoke a language other than English at home

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Australian Government
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THEIR HEALTH AT THE START

Physical activity

5.3% did at least 60 minutes/day every day in the past week

Sitting down

15 hours on average per day spent sitting while doing homework, reading, tutoring, hobbies, sitting around, playing an instrument, and on a small screen

Sleep

56% got at least 8 hours sleep a night

Screen time

74% spent on average more than 4 hours per day watching TV, playing video games or using a computer for fun

Happiness

32% showed signs of a mental illness

Healthy diet

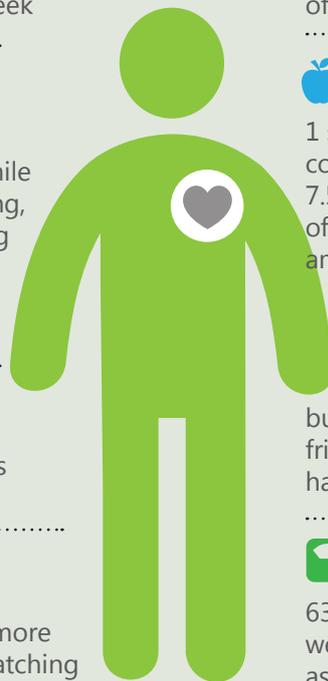
1 serve of fruit and vegetables consumed on average per day. 7.5% ate recommended amount of fruit and 4.9% recommended amount of vegetables

Poor diet

42% ate fast food including burgers, pizza, chips, or French fries at least once a day; 50% had at least 1 soft drink a week

Weight status

63% self-reported normal weight, while 18% identified as overweight; 9% obese, and 10% underweight.



WHAT WAS ASSOCIATED WITH HEALTHY DIET AND PHYSICAL ACTIVITY

Younger participants were more likely to eat more fruit and vegetables, do more exercise and lower their fast food consumption.

Adolescents who were overweight or obese were:

- Less likely to eat 3+ fruit serves / 4+ vegetable serves
- Less likely to do 60+ minutes of physical activity
- More likely to have eaten fast food in the previous 24 hours.

Adolescents who spent more hours seated or in front of screens were:

- Less likely to eat 3+ fruit serves and 4+ vegetable serves
- Less likely to do 60+ minutes of physical activity
- More likely to have eaten fast food in the previous 24 hours.

Higher levels of social connection and psychological wellbeing were associated with:

- Higher likelihood of eating fruit and vegetables
- Higher levels of physical activity
- Lower likelihood of eating fast food.

This pilot study has given us important insights into how we can collect better data in future. This information can be used to inform the design of a wider adolescent study to investigate how sleep, screen-time and stress are linked to dietary and physical activity outcomes, and how these behaviours change over time.