



UNLOCKING THE FACTS ON KIDS' SNACK HABITS

THE FIRST IN-DEPTH EXPLORATION OF NATIONAL DATA ON SNACKING BEHAVIOURS IN AUSTRALIAN CHILDREN

Information for Healthcare Professionals



Good Food, Good Life

WELCOME

DO YOU OFTEN WONDER HOW MANY TIMES AUSSIE KIDS SNACK EACH DAY? OR IS AFTERNOON SNACKING A MORE SIGNIFICANT CONTRIBUTOR TO ENERGY INTAKE THAN MORNING SNACKING? AND DO CHILDREN WHO SNACK MORE FREQUENTLY HAVE A HIGHER BMI?

As a healthcare professional, chances are you have many unanswered questions, like these, surrounding snacking behaviours in our children.

Let's face it, understanding snacking habits is an important first step to planning effective dietary intervention. How can we expect to influence "what" kids are snacking on, before we know "when" and "how often" they are snacking? In the past we have had to rely on isolated studies or select highlights of surveys to give insights. Until now, that is.

We trust you will find this first, in-depth, nationally representative data on Australian children's snacking behaviours just what you've been waiting for. Utilising new methodology, the answers to your frequently asked questions are detailed in this report. And chances are you may find a few surprises along the way, just like we did.

ARE YOU READY TO UNLOCK THE FACTS ON SNACK HABITS AND OUR KIDS?

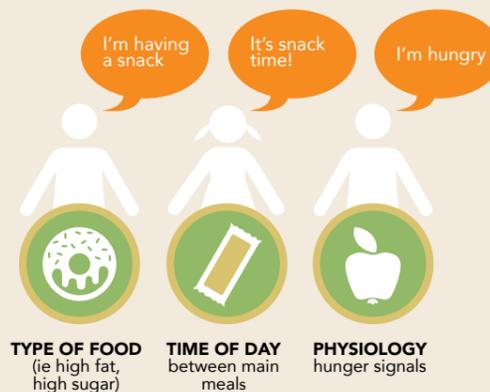
BACKGROUND & NEW METHODOLOGY

SURPRISING AS IT MAY SEEM, THERE IS NO UNIVERSAL DEFINITION OF SNACKING, PLUS VERY LIMITED DATA ON THE SNACKING HABITS OF AUSTRALIAN CHILDREN.

The most recent Australian National Children's Nutrition and Physical Activity Survey (ANCNPAS)¹ did not include questions relating to snacks and data on snacking in Australia are limited. Studies worldwide have utilised different methodology and definitions of snacking, which makes it difficult to compare and contrast findings.

Many different approaches to defining snacking were identified in the scientific literature: time of day and timing of consumption²⁻¹⁰, type of food (i.e. soft drink)^{7, 11-20}, self-defined snacking^{17, 20-22}, meal pattern (i.e. frequency)^{2, 10, 11, 22, 23}, social cues and physiology (i.e. level of hunger) from detailed food records. There is a trend toward the definition of snacks being energy-dense, nutrient poor "junk" foods when food-based classifications are utilised.

HOW IS SNACKING DEFINED?



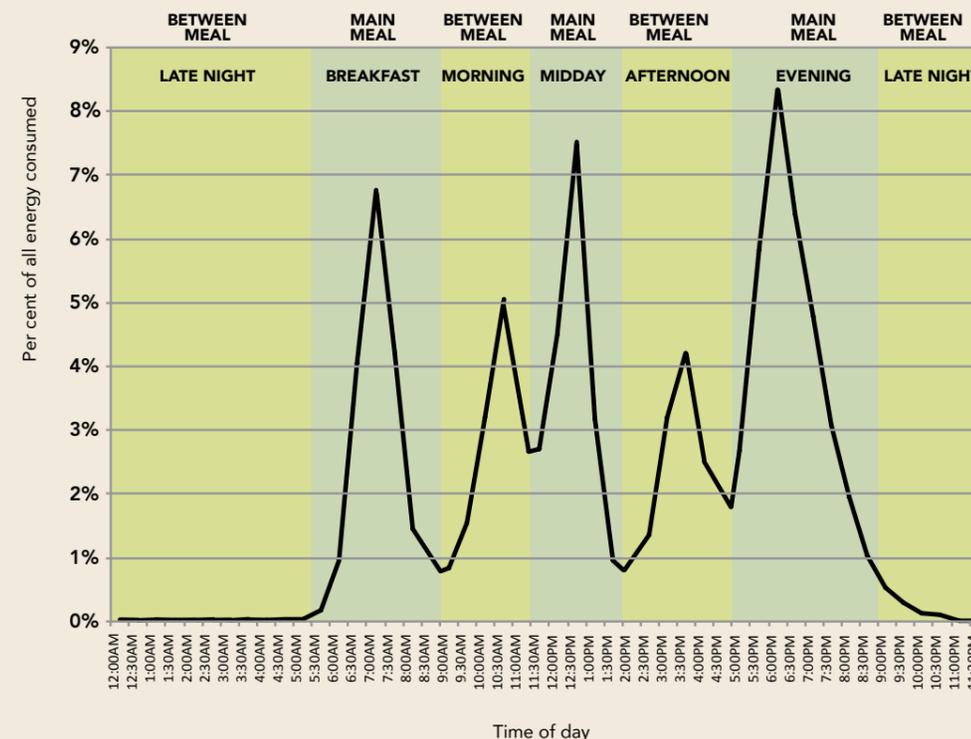
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A relatively recent review⁶ on snacking definitions stated, "Despite the nutritional and public health significance of snacking, there are no widely accepted, comprehensive, science-based dietary recommendations regarding this practice". It also concluded that, "...the lack of a universally accepted definition of snacking is an impediment to interpretation of the literature... to the development of pragmatic, science-based recommendations for healthy snacking, and fails to provide a template for future research".

Therefore, a new methodology and approach to defining and studying snacking behaviours was developed for this research. In 2013 dietary data from the 2007 ANCNPAS were assessed which utilised 24-hour recall methodology. A total of 3,637 children aged 2-16 years were included in the analysis. Weekday records were used due to consistency in meal time patterns. Multiple linear regression accounted for age, gender, body mass index (BMI) z-score, energy intake and physical activity. Statistical significance was set at P<0.01.

SNACKING WAS DEFINED AS ANY FOOD OR BEVERAGE CONSUMED BETWEEN MAIN MEALS UTILISING A FRESH APPROACH TO PROFILING SNACKING BEHAVIOUR.

MAIN MEAL TIME PERIODS	Were defined as the time periods where large peaks appeared in percentage energy intake and grams of food consumed across the day. As expected there were three main peaks: breakfast (5:30-09:00am), the midday (11:30am-2:00pm) and evening meals (5:00pm-9:00pm).
BETWEEN MEAL TIME PERIODS	Defined as the time periods between main meal time periods: morning (9:00-11:30am), afternoon (2:00-5:00pm) and late night (9:00pm-5:30am).
EATING OCCASIONS (EO)	Were defined as all foods and beverages consumed at the same point in time.
MAIN MEALS	Were defined as all eating occasions (EO) that occurred during a main meal time period.
SNACKING OCCASIONS (SO)	Were defined as all EO that occurred during a 'between meal' time period.



There is a need for an objective measure of snacking to be adopted for nutrition research to enable between study comparisons. We hope this methodology will help set the benchmark for future studies and assist in making evidence based recommendations for healthy snacking behaviours. Now, however, it's time to share with you the fascinating results.

IS FREQUENT SNACKING REALLY THAT COMMON? OR IS IT JUST SEEN IN YOUNGER KIDS?

RESEARCH FINDINGS

CHILDREN CONSUME ON AVERAGE
7 EO & 2.6 SO PER DAY



66% OF CHILDREN HAVE EITHER 2 OR 3 SO EACH DAY



98% OF CHILDREN HAVE AT LEAST 1 SO PER DAY

CHILDREN OF ALL AGE GROUPS (2-16 YEARS) HAVE SIMILAR NUMBER OF SO PER DAY

WHEREAS OVER HALF OF LATE NIGHT SO ARE BY CHILDREN AGED 13-16 YEARS



SUPPER IS LESS COMMON WITH ONLY 13% OF CHILDREN HAVING A LATE NIGHT SO (AFTER 9:00PM)



SNACK FACT:

The research showed that the majority of Australian kids, from toddlers to teens, can best be described as committed snackers.

RECOMMENDATION:

It's widely accepted that younger children need to snack regularly as they have smaller stomach capacities and high nutrient requirements for growth and development. As snacking behaviours are entrenched throughout childhood and into the teen years, dietary assessments should carefully assess snacking behaviours in all ages.

IS IT JUST A SINGLE FOOD OR BEVERAGE CONSUMED AT EACH SNACK TIME?

RESEARCH FINDINGS



ON AVERAGE CHILDREN CONSUME 3 FOOD OR BEVERAGE ITEMS AT EACH MORNING AND AFTERNOON SO

ON AVERAGE CHILDREN CONSUME ONLY 2 FOOD OR BEVERAGE ITEMS PER LATE NIGHT SO



CHILDREN HAVE ON AVERAGE **6** FOOD OR BEVERAGE ITEMS PER DAY FROM ALL SO



SNACK FACT:

The research showed that Australian kids consume multiple food and beverage items at one SO with the same behaviours observed in the morning, repeated in the afternoon



RECOMMENDATION:

When taking diet histories or conducting dietary assessments be careful to probe about multiple foods and beverages consumed at snack time.

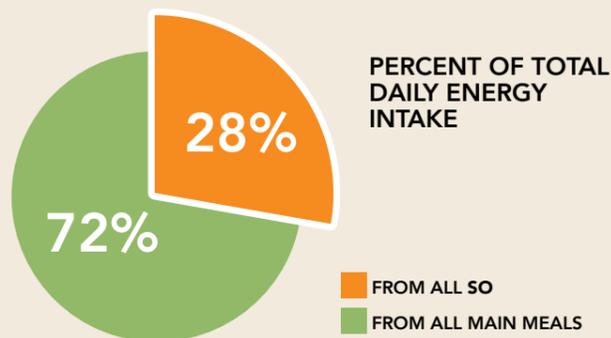
DEFINITIONS

EATING OCCASION (EO) - all foods & beverages consumed at the same point in time

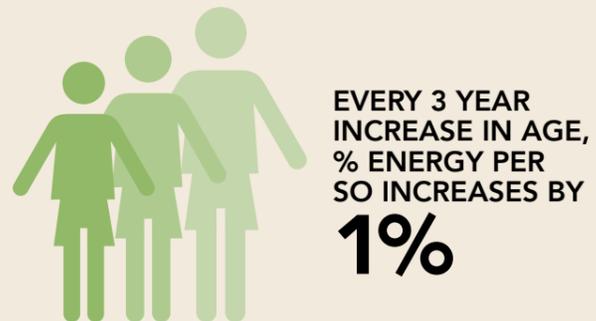
SNACKING OCCASION (SO) - all EO during in between meal time periods

DO SNACKING OCCASIONS MAKE A BIG IMPACT ON ENERGY INTAKE IN KIDS?

RESEARCH FINDINGS



ON AVERAGE EACH WEEKDAY SO CONTRIBUTES **12%** OF TOTAL DAILY ENERGY INTAKE



THE PERCENT OF TOTAL DAILY ENERGY IS 6.3% AND 6.8% HIGHER AT THE MORNING AND AFTERNOON SO, RESPECTIVELY THAN THE LATE NIGHT SO

FOR EVERY 1 MJ INCREASE IN TOTAL DAILY ENERGY INTAKE, A QUARTER OF THE INCREASE COMES FROM SO

SNACK FACT:

The research showed on average SO are significant contributors to energy intake, contributing just over a quarter of Aussie kids total daily energy intake.



RECOMMENDATION:

As snacking makes such a significant contribution to total daily energy intake, dietary interventions in children of all ages, should carefully balance advice on main meal strategies with those for balanced snacking.

ARE KIDS WHO SNACK MORE FREQUENTLY OVERWEIGHT?

RESEARCH FINDINGS

% ENERGY
FROM ALL SO WAS NOT ASSOCIATED WITH BMI-Z SCORE



NO ASSOCIATION BETWEEN BMI Z-SCORE AND NUMBER OF SO WAS OBSERVED DESPITE TOTAL DAILY NUMBER OF SO BEING ASSOCIATED WITH HIGHER TOTAL DAILY ENERGY INTAKE



SNACK FACT:

The research showed that higher total daily number of SO was not associated with higher BMI z-score. Children who were of normal weight had the same number of daily SO as children who were overweight or obese.



RECOMMENDATION:

When preparing general advice, such as writing a fact sheet on snacks, be mindful that the number of SO per day is not associated with overweight or obesity in kids. It is important to focus on the quality of snacks that are provided. Any advice to "limit" SO needs to be carefully concluded from individual and complete dietary assessments.

DEFINITIONS

EATING OCCASION (EO) - all foods & beverages consumed at the same point in time

SNACKING OCCASION (SO) - all EO during in between meal time periods

ARE SNACKS LIKELY TO BE MAINLY "JUNK" FOODS CONTRIBUTING LITTLE IN THE WAY OF POSITIVE NUTRITION?

RESEARCH FINDINGS

TOTAL PERCENT DAILY NUTRIENTS FROM ALL SO



AT LEAST OF DAILY CALCIUM INTAKE FROM ALL SO **25%**



AT LEAST OF DAILY DIETARY FIBRE INTAKE FROM ALL SO **28%**

IT IS IMPORTANT TO NOTE THAT FOR MOST NUTRIENTS, %INTAKES ARE PROPORTIONATE WITH % ENERGY CONTRIBUTION. THAT IS, FOR THE 28% OF TOTAL DAILY ENERGY CONTRIBUTION FROM ALL SO COMBINED, THE RANGE IN TOTAL DAILY NUTRIENT INTAKES FROM ALL SO WAS PROPORTIONATE BETWEEN 19% (NIACIN) TO 35% (TOTAL SUGARS).

SNACK FACT:
The research showed that SO made a significant contribution to essential nutrients in kids and nutrient contributions are in line with the energy contribution of SO.



RECOMMENDATION:

It's important to appreciate the positive nutrient contribution of SO and take this into account when completing diet histories or making recommendations for children and adolescents.

WHICH FOOD GROUPS ARE MAKING THE GREATEST CONTRIBUTION DURING SNACKING OCCASIONS?

RESEARCH FINDINGS



WATER WAS THE MOST POPULAR "SUBMAJOR FOOD GROUP"* CONSUMED FOR ALL SO TIME PERIODS



TOP "MINOR FOOD GROUPS"

MORNING SO - WATER, APPLES & BANANAS

AFTERNOON SO - WATER, APPLES & MILK

TOP 3 "SUBMAJOR" BY SO TIME

MORNING

9:00-11:30AM

- MINERAL WATERS & WATER
- POME FRUIT (APPLE)
- SAVOURY BISCUITS

AFTERNOON

2:00-5:30PM

- MINERAL WATERS & WATER
- SWEET BISCUITS
- DAIRY MILK

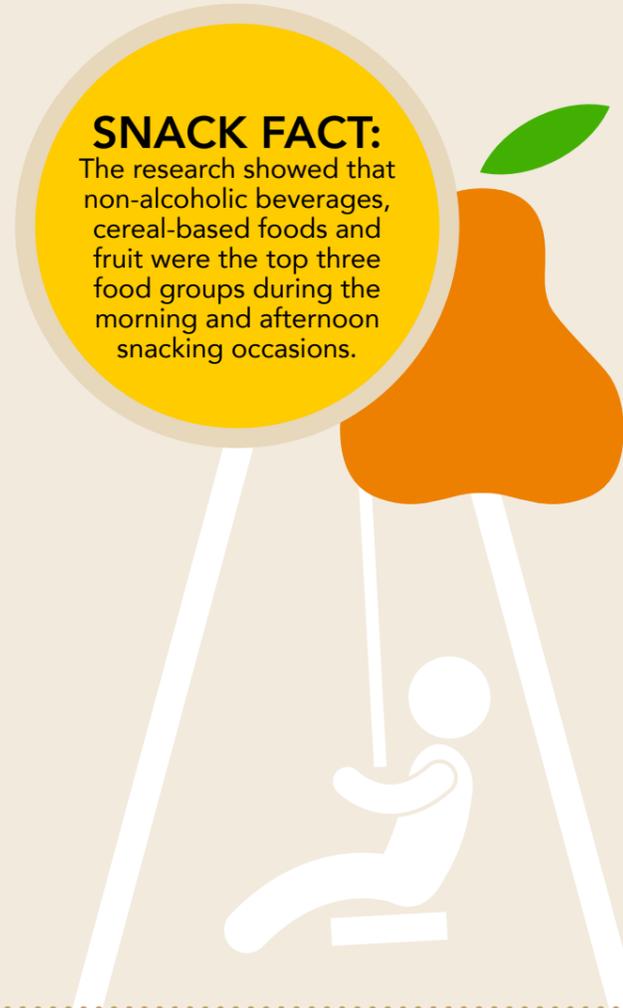
LATE NIGHT

9:00PM-5:30AM

- MINERAL WATERS & WATER
- MILK
- SUGAR, HONEY & SYRUPS

SNACK FACT:

The research showed that non-alcoholic beverages, cereal-based foods and fruit were the top three food groups during the morning and afternoon snacking occasions.



RECOMMENDATION:

There is often an unspoken bias around the concept of snacking with the term "junk" food used interchangeably with the term "snacks". However it is important to recognise that core and discretionary foods may be consumed together in a single SO.

DEFINITIONS

EATING OCCASION (EO) - all foods & beverages consumed at the same point in time

SNACKING OCCASION (SO) - all EO during in between meal time periods

*As defined in the survey¹

KEY FINDINGS & RECOMMENDATIONS:

1 Australian children, from toddlers to teens, are best described as committed snackers with 66% having between 2-3 SO each day.

2 Multiple items of food and beverages are consumed at each SO, therefore dietary assessments should accurately explore snacking behaviours.

3 SO contribute significant amounts of nutrients in the diet of Australian children and should not be collectively described as "junk" or empty kilojoule based. Close to a third of dietary fibre intakes and at least a quarter of vitamin C, E and folate intakes are obtained from SO in Australian children.

4 All SO contribute on average 28% of total daily energy intake to the diet of Australian children. The snacking habit is well entrenched into the older years with a gradual creep in the total energy contribution of SO.

5 The number of SO is not associated with BMI z-score, overweight or obesity. Children who are overweight or obese do not have a higher number of SO compared to children of a healthy weight. Advice to "limit" SO, as a strategy for effective weight management in Australian children, is not supported by this research.

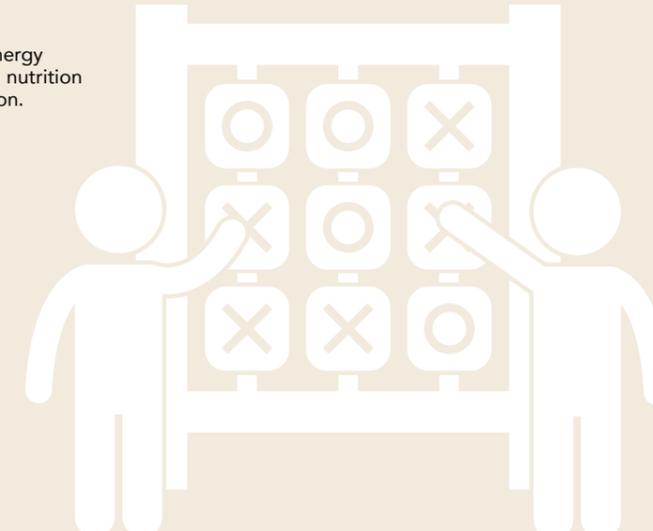
6 Snacking is a prominent behaviour among children of all ages, an important source of both energy and key nutrient intakes, and is not associated with overweight or obesity.

FINDINGS OF THIS RESEARCH ARE IN LINE WITH THAT OF THE REVIEW OF SNACKING (JOHNSON, 2010)⁶, WHICH INCLUDED THE FOLLOWING:

- "Snacking is a popular practice that has probably been increasing with time."
- "Role of snacking as a determinant of overweight and obesity has not been demonstrated."
- "Foods consumed outside the meal time contribute not only energy, but are important source of nutrients."
- "Prohibition of snacking to children is likely to be counterproductive."
- "Dietary guidelines on snacking are dependent on the definition of snacking and snack foods."

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