

KANTAR PUBLIC

**Healthy Weight and Lifestyle
Exploratory Research Report**

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1. Executive Summary

This summary presents the main findings of the Healthy Weight and Dietary Guidelines exploratory research conducted across May and June 2017, with Australians aged 18 to 65 years. The key objectives of the research were twofold:

1. Explore the Australian adult population's attitudes and beliefs regarding healthy eating, discretionary foods, and weight maintenance and how these beliefs reconcile with the Australian Dietary Guidelines and the Physical Activity and Sedentary Behaviour Guidelines.
2. Update previous research to provide an understanding of current factors influencing behaviours surrounding healthy eating and lifestyle and community attitudes through qualitative and quantitative market research.

Research was conducted over four core stages comprising of: qualitative research (Phases One and Two), a quantitative survey, and a subsequent segmentation. The segmentation focused on five core behaviours which were found to underpin healthy eating and activity levels through the qualitative research. These were: eating vegetables, eating fruit, limiting discretionary foods, engaging in physical activity and controlling portion size.

1.1 Perceptions of a healthy lifestyle

- The notion of a healthy lifestyle is a much broader concept than previously observed (in the 2012/2013 Australian National Preventive Health Agency (ANPHA) research), extending considerably further than diet and exercise to encompass mental, emotional, and social factors. It has therefore shifted away from the medicalised view, to be associated more strongly with a state of holistic wellbeing – having good mood, energy levels, work-life balance, and achieving enough sleep.
- A changing media landscape where audiences are exposed to a proliferation of health messages from an array of sources, combined with a stronger societal focus on the topic has led to a fractured sense of 'good health'. For audiences, the effect is confusion, distress, intimidation, and the devolution of authoritative sources for information on health. Confirmation bias in the way that health related information is processed and interpreted was therefore evident, with Australians opting to customise their approach to a healthy lifestyle.
- The concept of a healthy lifestyle is therefore far more personalised than before, as individuals adopt a version that makes sense to them, and is both endorsed and viable in their 'world'.

1.2 Perceptions of a healthy diet

- Australians recognise and accept a high proportion of vegetables is required to constitute a 'healthy diet'. The prominence of the vegetable food group in the Healthy Eating Plate was not questioned or rejected among qualitative participations, and was borne out in the quantitative survey with respondents perceiving vegetables to make up 26% of one's recommended daily diet.
- Conversely, other food groups were scrutinised in both qualitative and quantitative stages of research, with survey respondents either overestimating (fruit and lean meats and poultry, fish, eggs, tofu, nuts and seeds, and legumes/beans), or underestimating (Grains (cereal foods)) the category's daily intake according to the Australian Dietary Guidelines.
- Contributing to participant's perceptions of a 'healthy diet' was the high recall of the five vegetables and two fruit campaign messages, however understanding of the amount of vegetables in a serving size was generally poor.
- Discretionary foods were widely perceived and acknowledged as unhealthy by Australians, with a consensus that consumption of this category should be 'limited'. The perceived 'acceptable' amount of discretionary food did however cause varying responses, with the Australian Guide to Healthy Eating messaging of 'only sometimes and in small amounts' subject to misinterpretation and confusion.
- The Australian Dietary Guidelines in whole were broadly aligned to Australians' perceptions of healthy dietary behaviour, but leave room to validate a wide range of unhealthy lifestyle choices due to their perceived lack of specificity. As such, they don't appear to stimulate self-assessment or motivate change.

1.3 Perceptions of a healthy amount of physical activity¹

- What is deemed to be a 'healthy' amount of physical activity was not implicit across the population. Less than one in five (17%) of respondents surveyed correctly identified the Physical Activity and Sedentary Behaviour Guideline of 150 minutes of physical activity that raises your breathing rate per week as a 'healthy' amount. Furthermore, two in five Australians (17%) nominated an amount of less than 149 minutes per week as 'healthy', and the remainder (24%) claimed an amount greater than 151 minutes per week.
- Australians are not only uncertain of the amount of physical exercise that constitutes a 'healthy' quantity, but also lack the ability to self-identify 'how much is enough'. Only 31% of respondents who were undertaking a sufficient amount of physical activity were confident that it was a healthy amount. Whereas, two in five respondents (38%) who were engaged in an insufficient amount of physical activity were of the view that it was either 'definitely' or 'probably' enough to be healthy.
- Recollection of past health messages regarding frequency and duration of physical activity were evident, and influenced perceptions. Campaigns recalled included the thirty minutes per day and twenty minutes three times per week advertisements.

¹Note: Throughout the report physical activity is defined as 'any activity that gets your body moving, makes your breathing become quicker, and your heart beat faster' and exercise is defined as 'a planned, structured, repetitive and intentional activity'. This terminology was used to be appropriate to Australians answering the survey but may not be in line with definitions according to the Australia's Physical Activity and Sedentary Behaviour Guidelines.

1.4 Drivers and barriers of a healthy lifestyle

- The qualitative and quantitative research highlighted the powerful impacts of a range of external and environmental factors that enable and facilitate a healthy lifestyle, or make it extremely challenging. These were observed to underpin the capacity, capability and inclination of Australians to engage in a healthy lifestyle and included:
 - Time – participants who were time-poor tended to face considerable barriers to leading a healthy life. It was evident in the research that a lack of time affected many Australians with only two-thirds (64%) feeling they had the time to cook/prepare healthy meals, 69% believing they had the time to shop for healthy meals, and a quarter (25%) agreeing that they do not have the time to think about their diet.
 - Financial resources – regardless of household income, around one half of survey respondents (52%) claim the cost of healthy food can put them off buying it.
 - Routine – Australians whose lives follow a predictable routine found it easier to embed healthy behaviours, developing an approach that ‘worked’ for them within the context of their lives, was easy to maintain, and became habitual over time. The value of a routine to a healthy lifestyle was also well recognised across the study, with eight in ten surveyed (79%) agreeing that “having a good routine in your life helps you to eat more healthy foods.”
 - Families – play a significant role in setting behavioural norms, and both motivate and enable engagement in healthy behaviours. Lifestyle habits were often formed during childhood, with participants carrying forward learned behaviours from previous generations. Parents surveyed were conscious of the influence they had on setting up healthy eating habits for their children (88%), and endeavoured to set a good example for their children (77%).
- In parallel with the external challenges faced by Australians in leading a healthy lifestyle, was the sense of control that participants had over their lives (whether they felt capable of directing their lifestyle, or believe that their lifestyle was essentially externally driven) – known as the ‘locus of control’.
- Those with a strong internal locus of control tended to show greater inclination to leverage opportunities and overcome barriers. They were typically proactive, organised and disciplined. They were better at planning, working out weekly meals, using recipes, and shopping with lists. Healthy behaviours were seen as essential in and of themselves rather than as a means to attain weight loss or other benefits.
- By contrast, those with an external locus of control were more fatalistic in their attitudes, and operated in a more reactive, ad hoc way, sometimes disorganised and lacking discipline. This was evidenced by lack of meal planning, spontaneous food purchases, and picking up take-way food due to lack of prior planning. Many of these participants tended to be apathetic about their health, distracted, disengaged or unconcerned.
- Other factors driving motivation around a healthy lifestyle identified in the qualitative research included:
 - A desire to ‘feel good’ – both physically and mentally.
 - A desire to ‘look good’ – maintaining a level of personal attractiveness and conforming to a socially desirable body type.
 - A desire to ‘remain well’ – avoiding the chronic diseases associated with being ‘unhealthy’ (notably type 2 diabetes, heart disease, and cancer).

1.5 Attitudes to diet and dietary behaviours

Vegetables

- Attitudes toward the consumption of vegetables were heavily weighted in the negative, illustrating the many barriers respondents felt they faced to reach the daily requirement for 'good health'.
- Vegetables were described by many Australians to be tasteless, offering little in the way of sensory or emotional gratification. Only 38% of respondents surveyed claimed to eat vegetables because they 'tasted good'.
- The time required preparing vegetables, limited understanding of how to incorporate them into meals, and concern around wastage and cost were also off-putting to a high portion of adults.
- There was however, widespread recognition of the importance of eating vegetables, due to their short and long-term health benefits. Vegetables were most associated with essential dietary nutrients (vitamins, minerals and fibre) – with over half of survey respondents (56%) citing these health benefits as the primary driver of vegetable intake.
- Despite strong recognition of the health benefits of eating vegetables, the research demonstrates a chronic deficiency of vegetables in the diets of the majority of Australians, with only 12% of adults consuming the recommended five serves of vegetables daily (an average of 2.6 serves is consumed).
- Consumption was significantly lower among males and those aged 18-24 years.

Fruit

- Fruit was seen as more appealing than vegetables with fewer perceived barriers to consumption recounted, due to the reported superior taste and convenience.
- Over half of the quantitative sample (51%) asserted that they ate fruit because it 'tastes good' or because they liked it. Fruit was also considered to be quick to prepare, easy to use, and readily available.
- Social norms around eating fruit were also largely encouraging and validating – consuming fruit at almost any meal time was regarded as 'normal' and, unlike vegetables, was also an accepted snack food.
- The health benefits of eating fruit were also recognised, but to a notably lesser degree than for vegetables – around one third (36%) claimed to eat fruit for health-related reasons. The research also revealed inter-generational differences in the views of the nutritional value of fruit, and therefore how much should be consumed. Younger audiences considered there were aware of the potential adverse impacts of the sugar content, while an older audience regarded fruit as largely interchangeable with vegetables in terms of the perceived health benefits.
- On average, Australian adults are consuming 1.9 serves of fruit per day, coming very close to the Australian Dietary Guidelines recommendation of 2 serves per day. Over a half (51%) of adults claimed to consume the recommended two serves of fruit 'yesterday'.
- Consumption was significantly lower among obese respondents, those aged 18-24 years, and Australian households earning under \$60K.

Discretionary food

- The intrinsic 'unhealthiness' of discretionary foods was well recognised by participants in the qualitative research. Fatty, sugary and salty foods were commonly associated with general poor health, weight gain, and chronic disease.
- Many participants found it difficult however to resist discretionary food items, with consumption of discretionary foods most strongly underpinned by a range of unconscious 'automatic' factors: sensory appeal, norms, habits and heuristics, impulses and emotion.
- Over one third of Australians surveyed (35%) claim they eat sugary and salty snacks for the taste, while many others claim consumption as a reward or comfort.
- It was also very common across all cohorts to buy a meal and eat out of home at least once a week (62%), or purchase discretionary snack food at least weekly on impulse (33%).
- Desire for this food group is often amplified and exploited by the marketing activities of the food industry and supermarket chains, which proved far stronger than 'rational' assessments that generally reinforced the belief that these foods should be restricted. Even when motivation to do so was strong, many in the study pointed to the 'ease' with which they were drawn back to discretionary foods, time and time again.
- The most frequently consumed discretionary foods consumed 'yesterday' were confectionary (48%), processed meat (44%), and sweet baked goods (41%).
- Aboriginal and Torres Strait Islander respondents were significantly more likely to consume all products from the discretionary 'food group', while Culturally and Linguistically Diverse (CALD) respondents were also significantly more likely to consume sweet baked goods.

1.6 Attitudes to physical activity and physical activity behaviour

- Undertaking physical activity is universally accepted as a healthy behaviour, with different types of activity seen as beneficial, and likely to trigger other healthy behaviours.
- Of all health behaviours, physical activity was most strongly associated with the concept of 'wellbeing' – offering physical, mental, and social benefits. This was borne out in the quantitative survey, with nearly four in five respondents (78%) agreeing that they feel good about themselves after exercising.
- Routine and planning emerged in the research as the primary enabler of participation in physical activity. However, motivation to engage in physical activity varied, with many put off by the prospect of physical pain and exertion, and feeling self-conscious about their appearance or aptitude. This, together with the perceived opportunity cost of participation, the practical challenges, and environmental barriers made participation an 'opt in' decision for many and the formation of routines considerably difficult.
- Only around two in five Australians (42%) are undertaking a sufficient amount of physical activity (150 minutes or more across a week), with a further two in five (41%) undertaking an insufficient amount (30 to 149 minutes across a week). The remainder are undertaking a negligible amount (less than 30 minutes – 10%), claim they cannot exercise (4%), or are unsure of their physical exertions (3%).
- Obese respondents, females, those aged 25-34 years, and those households earning under \$60K were significantly less likely to be undertaking a sufficient amount of physical activity.

1.7 Attitudes to portion control and portion control behaviour

- Controlling portion size was viewed as a ‘common sense’ strategy for weight loss, and considered relatively straightforward. There was low recognition for other health benefits possible through portion control.
- Normalisation of large serving sizes was evident, with barriers to restricting portion size reflecting a sense of deprivation.
- Two in five survey respondents (40%) had reduced their portion size in the past twelve months in order to maintain or lose weight, and over half the sample (54%) planned to do this in the next twelve months.

1.8 Attitudes to weight and maintaining a healthy weight

- The research highlighted a progressively distorted perception of weight, reflective of the shifting normalisation of overweight. Fewer respondents identified as ‘obese’ in the quantitative survey (due to under-claiming) and participations were only negative in their views on the weight of others, when associated with severely obese individuals.
- Weight as a signal of health is somewhat disputed, with the quantitative indicators of healthy/unhealthy weight – particularly the Body Mass Index (BMI), rejected by most Australians. As a result of the scepticism, participants were using their own ‘qualitative’ assessment of their weight, based on clothes fitting, appearance, energy levels and mood.
- While older participants recognise the risks of being overweight (chronic health disease, including diabetes, high blood pressure and heart disease), younger participants concern primarily relate to body image rather than health (i.e. attractiveness).
- Overweight and obese respondents also appear resigned to weight gain, recording very low levels of confidence in their ability to not put on weight over the next twelve months (61% and 47%) or next five years (50% and 38%). They also have highly aspirational expectations to weigh the same, or less than they currently do in five years’ time (82% and 91%).

1.9 Information sources influence on a healthy lifestyle

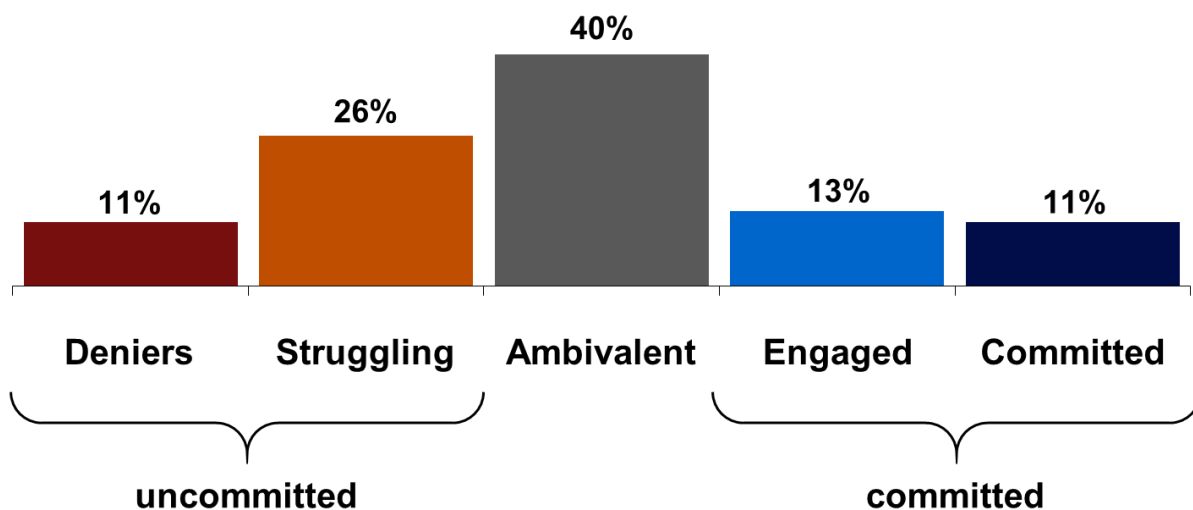
- Evident in the qualitative research was the amount of ‘noise’ generated around health and lifestyle from a range of sources. These varied from information that was purely for entertainment (cooking shows, magazine articles, social media) to sources that were informational (websites or documents), educational (school), offered an informed opinion (i.e. friends or family), or specialised advice (health professionals).
- Initial learnings about diet and lifestyle were obtained through early education – school and parental role modelling, with the food pyramid achieving high recall. This ‘core’ knowledge base was then constantly added to and updated.
- Social media was the primary source of information accessed by participants. Health posts were seen to entertain the audience as much as inform/advise, and included – diet ideas, health and weight loss ‘philosophies’, recipes and menu ideas and fitness regimes. Behavioural advice was often taken on board, in a low risk matter, with seven in ten (70%) of those who had been exposed to food related posts indicating they had cooked a meal or recipe as a result of seeing it on social media.

- While Australians cited that they were constantly exposed to content about health, information is not necessarily actively sought out personally, but received passively through various channels. The acquisition of this knowledge was also met with very little investigation around the origin of that information – with nearly half (47%) of those surveyed who were exposed to health-related posts claiming they did not pay attention to who was posting.
- Nearly one quarter of Australians (23%) had consulted with a health professional in the past twelve months about physical activity (17%) or diet (14%), and almost one in five respondents surveyed (19%) had consulted with a personal or physical trainer in the past twelve months.

1.10 Segmenting the population for effective intervention

- Through this research, the population was segmented using a commitment model, which is assessed against four dimensions: cognitive dissonance (how comfortable people are with the behaviour), external influence (perceived level of difficulty of changing the behaviour), ambivalence and involvement (importance).
- Our model produced five segments in total, as illustrated in the following diagram:

Figure 1.10.1: Distribution of commitment segments



- **The Committed segment** represents 11% of Australians who are the most devoted, and likely to role-model the desired health behaviours (eat healthy and be physically active), while seeking to influence change around them. This segment consists of a high proportion of females, individuals with high household incomes, and those who are of 'normal' BMI weight.
 - Behaviourally, the Committed segment consumes the highest quantity of fruit (65% eat on or above the Australian Dietary Guidelines) and vegetables (26% eat on or above the Guidelines), and the lowest amount of discretionary food. They contain the greatest proportion of individuals who are doing a sufficient amount of physical activity (58%) and are also the most likely to have a 'way of eating' (i.e. vegetarian). This segment also has a greater responsibility for shopping, preparing and planning of meals.

- Attitudinally, those who are in the Committed segment have the highest levels of self-efficacy, lowest perceived costs, and are the least likely to be influenced by setting. They view eating healthy and being physically active as highly beneficial to their health and wellbeing. They describe themselves as organised and routine driven, having a strong internal locus of control. They recognise and leverage opportunities to engage in healthy behaviours.
- **The Engaged segment** was found to be 13% of the population. They are committed to achieving the desired healthy behaviours but are unlikely to seek to influence others. Engaged are more likely to be females, have middle to high household income, be of normal BMI weight, and be university educated.
 - Behaviourally, they are the highest consumers of fruit (66% eat on or above the Australian Dietary Guidelines), and second highest segment for vegetables consumption (17% eat on or above the Guidelines). A moderate amount of discretionary foods is eaten – particularly confectionary and sweet baked goods. They are the most likely to engage and follow social media content about diet and physical activity, as a source of information and inspiration to achieve the desired health behaviour. Engaged respondents are significantly more likely than the average to be doing a sufficient amount of physical activity (56%).
 - Attitudinally, Engaged have a high level of self and response efficacy, perceive few costs, and are less influenced by external factors. They are creative and resourceful in surmounting external barriers to healthy living.
- Any communication directed towards Committed and Engaged segments should focus on positive “reinforcing and rewarding”, while nudging them towards additional consumption of vegetables and increased physical activity.
- **The Ambivalent segment** represents the greatest proportion of Australians, with 40% of the total population falling into this category. These individuals have an aspiration to achieve the desired health behaviours, but are strongly influenced by external sources. Ambivalents have an over representation of males aged 25-34 years old, low to middle household income, are more likely to be living regionally, and Aboriginal and Torres Strait Islanders.
 - Behaviourally, this segment eats a high amount of discretionary food with high consumption of confectionary, sweet baked goods, and salty snacks. They are low consumers of vegetables (9% eat on or above the Australian Dietary Guidelines) and moderate consumers of fruit (47% eat on or above the Guidelines). Over a third (36%) of the segment achieves a sufficient amount of physical activity.
 - Attitudinally, they believe that having a healthy lifestyle is ‘not that important’ and do not recognise the short and long-term health benefits of being physically active and eating healthy. They have low self-efficacy, have the highest perceived time and energy costs and have an external locus of control, being highly influenced by their setting.
 - Australians in the Ambivalent segment need education and persuasion, with efficacy-building assistance, to become more committed to achieving a healthier lifestyle. They need a combination of motivation, incentives, and inducement. A multi-pronged communication strategy is likely to be most appropriate and effective, with the aim to raise the importance of a healthy lifestyle.
- **The Struggling segment** has the second highest number of Australians (26%). These individuals’ unconscious attitudes serve as a barrier to exhibiting the desired behaviour, in contrast to not ‘actively’ wanting to be exhibiting an undesired behaviour. They contain the highest incidence of obesity, as well an older demographic skew to 50-64 year olds. They are more likely to have high cholesterol or blood pressure and less able to exercise due to illness, injury or a disability.

- Behaviourally, the Struggling segment consumes the highest amount of confectionary and sweet baked goods. Under half (42%) are achieving a sufficient amount of physical activity, with low consumption of vegetables (9% eat on or above the Australian Dietary Guidelines) and moderate consumption of fruit (50% eat on or above the Guidelines).
- Attitudinally, they are not comfortable with their weight/body shape and would like to try and lose weight as well as improve their diet. They have low response efficacy and are often vulnerable to external influences that impact their behaviour. Cost and time barriers are also major influencers over this segment. Struggling would describe themselves as 'having will but no willpower', with internal and external capacity to engage in healthy behaviours very limited.
- **The Denier segment** represents 11% of the population. They refuse to acknowledge the desired health behaviour (eating healthy and being physically active) as something that should be taken seriously and are therefore the most likely to exhibit the undesirable behaviour. Deniers contain a greater proportion of males, those with a lower household income, and less educated individuals.
 - Behaviourally, they are the highest consumers of salty snacks and takeaway, and the lowest consumers of both fruit (39% eat on or above the Australian Dietary Guidelines) and vegetables (8% eat on or above the Guidelines). They also have the equal lowest proportion of individuals achieving a sufficient amount of physical activity (36%). Deniers do not engage in social media content about diet and physical activity, and are less likely to be responsible for shopping or meal preparing.
 - Attitudinally, they do not believe having a healthy lifestyle is important, nor do they want to improve their diet or feel they need to do more physical activity. Deniers are the least likely to be influenced by social norms and do not feel obliged to meet them. They lack motivation to leverage opportunities for healthy living.
- It is recommended that any messaging for the Struggling and Denier segment should focus on over eating and portion control.

2. Introduction

2.1 Background

There is uncontested epidemiological and population health evidence of the significant contribution of diet and high body mass to Australia's burden of chronic disease. Risk manifests in the population through unhealthy lifestyle behaviours associated with poor dietary habits and choices, and insufficient physical activity. However, because of the way these behaviours interrelate in their impact on BMI, strategies to reduce overweight and obesity are challenging and complex.

To assist Australians to make healthy lifestyle decisions, the Australian Dietary Guidelines and the Australian Physical Activity and Sedentary Behaviour Guidelines were developed. These Guidelines make recommendations about the amount and type of food Australians should eat, and activity levels they should achieve to maintain a healthy body weight and reduce their risk of chronic disease. The Guidelines also provide educational resources for health professionals and educators to assist Australians to make healthy decisions.

Despite this, The Australian Health Survey (2011-2013) indicates that Australians are not consuming the recommended amount of foods from the five food groups in the Australian Dietary Guidelines, are consuming high energy, nutrient poor foods in disproportionate amounts to that recommended for healthy weight, and are not sufficiently active. In the National Health Survey (2014-2015), 70.8% of men and 56.3% of women were overweight or obese.

All of the evidence to date suggests there is a strong interest amongst many overweight and obese Australians in health and healthier lifestyles, but that they lack the know-how, skills, and confidence to make effective changes. Many feel overwhelmed, confused, and disempowered by the myriad of differing and changing advice from a vast array of sources (both evidence based, and not evidence based) which erodes their commitment to making healthy lifestyle changes.

Kantar Public was commissioned to update previous research to provide an understanding of current factors influencing the Australian population's attitudes, behaviours and beliefs regarding healthy eating lifestyle, and to identify potential opportunities for behaviour change.

The specific research objectives are broken down into the key research questions in the diagram overleaf.

2.2 Key objectives

The key objectives of the research were twofold:

1. Explore the Australian adult population's attitudes and beliefs regarding healthy eating, discretionary foods, and weight maintenance and how these beliefs reconcile with the Australian Dietary Guidelines and the Physical Activity and Sedentary Behaviour Guidelines.
2. Update previous research to provide an understanding of current factors influencing behaviours surrounding healthy eating and lifestyle and community attitudes through qualitative and quantitative market research.

More specifically the research aimed to explore:

- Gaps in contemporary awareness, understanding and perceptions of weight and healthy lifestyles.
- Beliefs and attitudes influencing weight gain and what drivers and barriers exist to maintaining healthy weight.
- Current understanding of the 'what', 'why' and 'how' of maintaining healthy weight and nutrition and the identification of motivating factors and barriers.
- The influence of automatic and environmental factors in the propensity to engage in healthy lifestyles.
- Understanding of the relationship between lifestyle and chronic disease, including diet and healthy weight maintenance.
- People's perception of their own lifestyle and associated risks regarding chronic disease.
- How having children influences attitudes, beliefs and behaviours regarding own diet, activity and weigh maintenance, including the role of children in the motivation of parents for lifestyle change.
- The current sources of information on diet, nutrition, exercise and preferred modes of receiving information.
- Sources of information about healthy eating/lifestyle/weight management which are perceived to be credible, such as Dietary Guidelines, other Government sources, non-Government sources, online forums etc.
- What behavioural and psychographic segments exist, and what is their demographic profile.
- The segments' perception of what constitutes a healthy eating/weight/lifestyle (including physical activity and nutrition), and what is the perceived link between these activities and chronic disease.
- What action should be undertaken from a strategy development and ongoing social marketing development perspective.
- Differences across demographics – including CALD communities and Aboriginal and Torres Strait Islander people.

2.3 Methodology

Research was conducted over four core stages comprising of qualitative research (Phases One and Two), a quantitative survey, and a subsequent segmentation. A brief overview of the research is provided below, with full details provided in Appendix 1.

2.3.1 Qualitative research

The structure for the qualitative stage of the study comprised of the following two phases:

Phase One

- **26 x in-home immersions**, conducted via two 2 hour in-home in-depth interviews, seven to ten days apart (including a weekend), with a telephone interview scheduled in between the face to face interviews.
- **30 x in-home affinity mini discussions groups**, one 2 hour session with friendship or play groups (each including 3 to 6 participants); and
- **8 x online discussion forums**, conducted over ten days including online participation days, offline tasks, and rest days (each comprised of 9 to 11 participants).

All phase one fieldwork was conducted between 1-18 May 2017 in Sydney, Newcastle, Wagga Wagga, Melbourne, Geelong, Perth, Bunbury, Kalgoorlie, Brisbane, and Toowoomba.

Phase Two

- **12 x discussion groups**, 1.5-hour session with participants for communications testing, framing and calls to action (each comprising of 4 to 8 participants).

All phase two fieldwork was conducted between 8-15 June 2017 in Sydney, Melbourne, Geelong, Perth, Brisbane, and Sunshine Coast.

Indigenous audience research was sub-contracted to our research partners, CIRCA, who specialise in this area of research. Research with Aboriginal and Torres Strait Islander participants occurred simultaneously to Phase One and comprised of:

- **2 x mini discussion groups**, conducted with parents and carers of children aged 0-5 years (each including 5 participants);
- **3 x mini discussion groups**, conducted with parents and carers of children aged 5 years and above (each including 4 to 5 participants); and
- **5 x in-depth (telephone) interviews** with health workers. All indigenous fieldwork was conducted between 8-15 May 2017 in Sydney, Moree, Brisbane, Cairns, and Shepparton.

2.3.2 Quantitative research

The quantitative stage consisted of an **online survey with 3,150 Australian adults** aged between 18 and 64 years. A total of 1,940 of these interviews were completed with the primary audience of parents aged 18 to 50 years, and 1,210 interviews were completed with other adults aged between 18 and 65 years.

The average interview length was 32 minutes, with fieldwork conducted between 31 May–13 June 2017. The data was weighted according to ABS census statistics.

2.3.3 Segmentation

Segmentation analysis was undertaken on respondents' overall commitment to being more healthy (improving diet and being more physically active). A commitment segmentation was conducted as a reliable predictor of behaviour change, which is explained in further detail below.

Understanding Influence and the Commitment segmentation

The latest evolution in behaviour change thinking indicates a need to move away from self-reported intentions (which are an unreliable indicator of what people will actually do) towards a more accurate behaviour predictor - commitment. Strong or weak levels of commitment are better at explaining why people do or do not act as they intend, or stick with intentions.

The commitment model illustrated below helps to understand how to bridge the intention-action gaps, and convert target segments to committed states, and ultimately predict and generate sustained behavioural change.

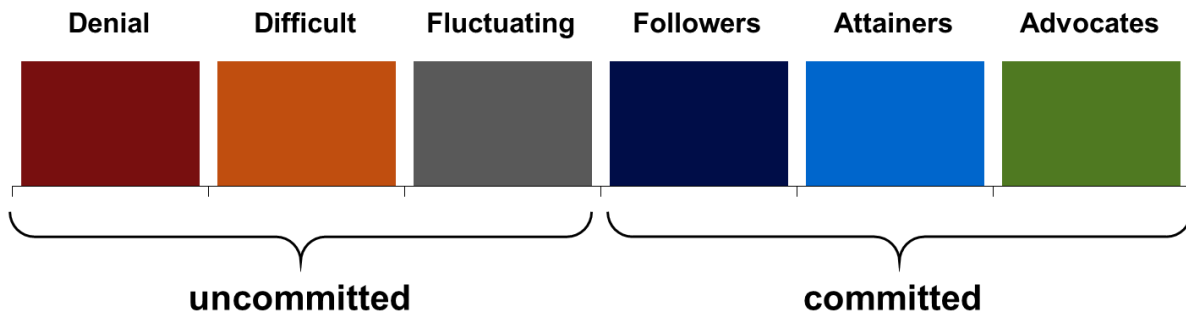
Creation of the Commitment segmentation

Measuring commitment is not a single construct as commitment is a complex human concept with multiple dimensions. The measurement involves writing behaviour-specific contextualised questions on four dimensions:

- **Cognitive dissonance:** to understand cognitive dissonance, we determine whether people are experiencing "comfort" or "discomfort" with their existing value/behaviour;
- **External influence:** to understand external influence, we determine the extent to which people believe it would be difficult to change, even if they really wanted to;
- **Ambivalence:** to understand ambivalence, we determine whether people are torn when they think about the issue/behaviour, identifying more reasons for/against; and
- **Involvement/Importance:** to understand involvement, we determine the extent to which people consider the issue/behaviour something that is important to them personally.

Generally, six segments are created through the analysis of responses to customised, contextualised questions on the four dimensions.

Figure 2.3.4.1: Standard Commitment model segments



- **Advocates:** The strongest commitment (consciously and unconsciously). They are most likely to role-model the desired behaviours, and seek to influence change among those around them.
- **Attainers:** Strongly committed to the correct behaviour, however, they are unlikely to actively seek to influence others – unless inspired to do so.
- **Followers:** Have a desire to do the ‘right’ behaviour, but strongly influenced by those around them – the ‘loudest voice’ and their perception of ‘social norm’.
- **Fluctuating:** Strongly conflicted in their behaviour. While they may not ‘actively’ want to exhibit undesired behaviours, and go against the ‘social norm’, their unconscious attitudes serve as barriers.
- **Difficult:** The most negative in their behaviours and attitudes. They are knowingly exhibiting the undesirable behaviour and are actively resistant to change.
- **Denial:** Refusing to acknowledge the behaviour/issue is something that should be taken seriously. They are the most likely to be exhibiting the undesirable behaviour.

In order for the segmentation to be valuable in guiding the development of an effective strategy that resonates with the target segments:

- Segments have a clear demographic and/or behavioural profile, and are mutually exclusive with regard to their behaviours;
- There is a manageable number of segments for marketing purposes;
- Segments can be clearly communicated and actioned both by policy and practitioners, and creative agencies if messaging is required; and
- Segments are measurable and can be tracked over time.

2.4 Quantitative sample profile – body weight classifications

Respondents of the online survey were asked to provide estimates for both their height and weight. Based on this a BMI was calculated for each respondent who had provided an estimate for both height and weight. In addition, all respondents were asked to self-identify their body shape against the set of body shape images (see Appendix 4). The correlation between BMI and body shape was strong, and as such body shape was used as a proxy for those respondents for whom no BMI could be calculated. This resulted in the distribution of BMI as outlined in Figure 2.4.1 below (second bar). The first bar outlines the BMI distribution for the population according to the 2014 Australian Health Survey (AHS).

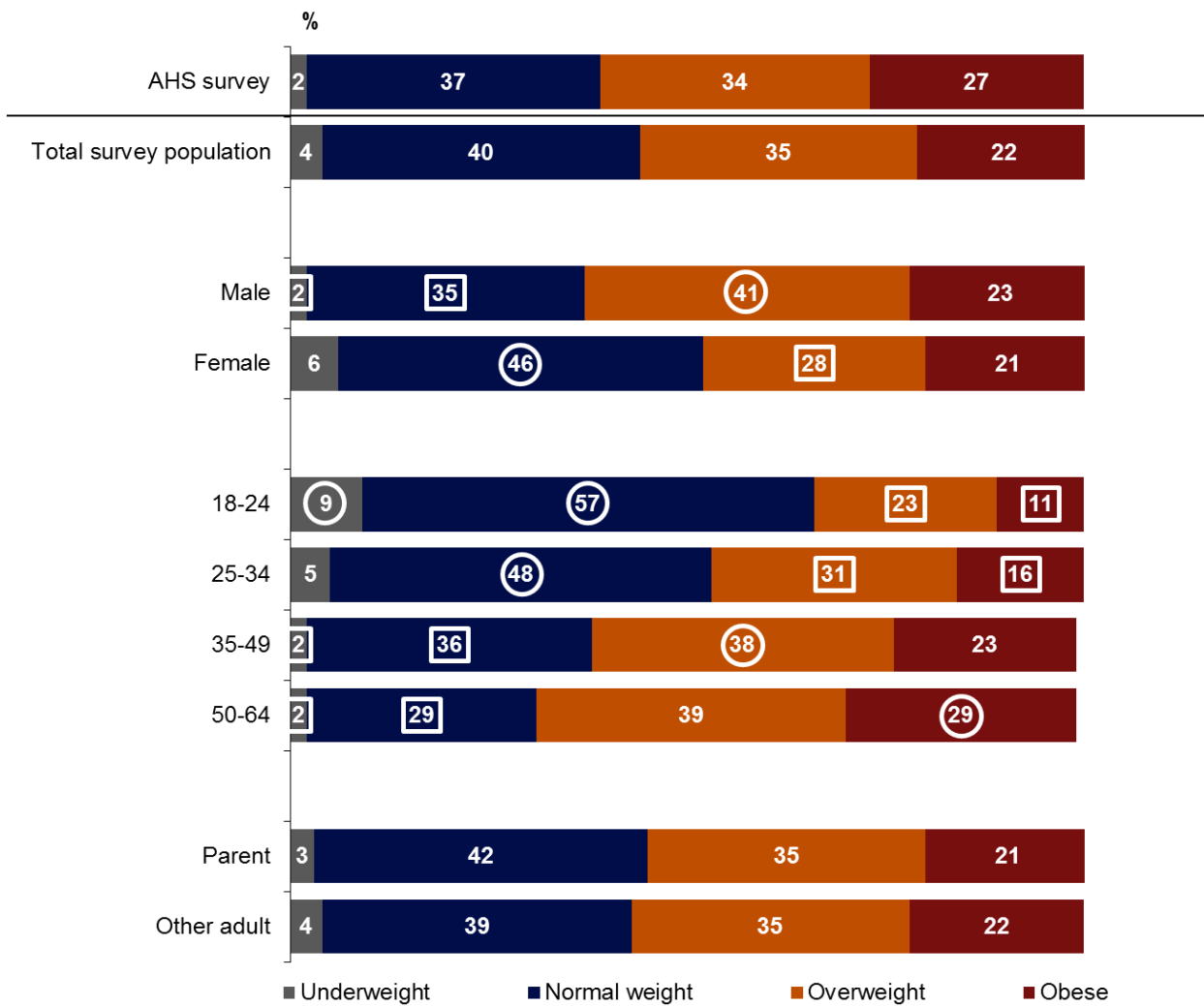
The weight distribution from this survey has a lower incidence of overweight and obesity compared to the AHS, due to apparent under-claiming of weight by respondents.

Males from this survey are significantly more likely than females to be overweight (41% vs. 28%), with obesity levels similar (23% males and 21% females). BMI of survey participants increases with age, with the proportion of overweight and obesity climbing from 34% for 18 to 24 year olds, to 47% for 25 to 34 year olds, to 61% for 35 to 49 year olds, and 68% for 50 to 60 year olds.

Those segments that had a higher level of commitment (Committed and Engaged) were significantly more likely to be of normal weight (48% in both instances).

Other significant differences in the sample profiles weight have been shown below, tested against the total sample.

Figure 2.4.1: Body Mass Index



SOURCE: E1: How much do you weigh? E2: How tall are you? S3: Are you male or female? S4: How old are you? S5: Which of the following best describes your household situation?

BASE: All respondents (n=3150)

NOTE: The white circles and white squares indicate a significant difference at the 95% confidence interval against the total survey population. Circles indicate a significantly higher score, whereas squares indicate a significantly lower score (against the total).

2.5 Notes for this report

For each section the report details the main findings and compares them with the results from a total respondent level and between subgroups. In the tables and graphs, significant differences amongst subgroups have been indicated by highlighting a significantly higher score in green arrows pointing upwards, and a significantly lower score in red arrows pointing downwards. Significant differences against the total have also been included, indicated by a significantly higher score in a white circle, and a significantly lower score in a white square.

The report details significant differences of interest (at the 95% confidence level) among the following groups, where relevant:

Table 2.5.1: Subgroups of interest

Category	Subgroups
Gender	Male, Female
Age	18-24, 25-34, 35-49, 50-64
Life stage	Parent, Other Adult
BMI	Underweight, Normal Weight, Overweight, Obese
Location	Metropolitan, Regional
Household Income	Less than \$60K, \$60-\$100K, \$100-150K, More than \$150K
Aboriginal and Torres Strait Islander	Aboriginal and Torres Strait Islander, non-Aboriginal and Torres Strait Islander
Culturally and Linguistically Diverse (CALD)	

Where relevant, comparison to the 2013 research undertaken by Kantar Public (then TNS Social Research) for the ANPHA have been made at a broad insight level.

This report combines findings of both the qualitative and quantitative stages of the research, bringing insight together for discussion.

Throughout the report physical activity is defined as 'any activity that gets your body moving, makes your breathing become quicker, and your heart beat faster' and exercise is defined as 'a planned, structured, repetitive and intentional activity'. In Section 8 however, terminology may not be in line with definitions according to the Australia's Physical Activity and Sedentary Behaviour Guidelines and instead was used to be appropriate to Australians answering the survey.

All research was conducted in accordance with ISO20252 standards.

3. A recap of where we started

Research was undertaken in 2012/2013 by TNS Social Research (now Kantar Public) for the Australian National Preventive Health Agency (essential functions of the Australian National Preventive Health Agency were transferred to the Department of Health from 1 July 2014), with the aim of providing high level strategic advice to inform an actionable social marketing strategy to increase the adoption and maintenance of healthy lifestyles and healthy weight amongst the Australian populace. This research consisted of qualitative and quantitative phases. The executive summary of this research is summarised in this section of the report.

3.1 Perceptions of overweight/obesity

- In late 2012, health, followed closely by ‘the economy’, was regarded as the most critical challenge facing Australia. Obesity was considered to be the second most critical challenge within health.
- When provided with a range of body shape images to classify as either underweight, normal weight, overweight, or obese, it became clear that perceived weight norms were changing, with higher weights increasingly being classified as “normal”.

3.2 Attitudes to personal weight

- It was also clear in 2012 that overweight people overestimated how healthy their lifestyle was. When asked to rate how healthy their lifestyle was “in general”, nearly two thirds rated their lifestyle as at least ‘fairly healthy’. While this decreased as BMI increased, two in five obese people still rated their lifestyle as fairly healthy.
- There were marked differences in the level of comfort people had with their current weight and body shape, dependent on their weight classification – the higher the BMI, the less comfortable people were with their weight and body shape. However, confidence in participants’ ability to maintain or lose weight decreased markedly, both as BMI increased and over time. These findings supported the notion that despite tangible discomfort and displeasure with their weight in 2012, Australians were becoming resigned to the inevitability that they will put on weight as they age.
- The perceived link between healthy weight and activity was more salient than the link between healthy weight and portion size. There was a clear link between the perceived need to decrease food intake and BMI, with two thirds of obese people claiming they need to eat less, compared to one third of those with a normal weight. The perceived need to be more physically active, while increasing with BMI, was significantly higher amongst all BMI groups than the belief that they needed to decrease food intake.
- The primary indication of weight gain in 2012 was a tightening of clothes, with about two thirds of people claiming this was an indicator for them. Weighing themselves on scales was another strong indicator of weight gain, with half of all people mentioning this.

- The biggest perceived impact of being overweight for individuals was the risk of chronic disease, consistent across demographic groups and weight classifications. However, for those aged under 24 years, the primary impact of being overweight was not liking the way they look, while those aged between 25 and 34 years were equally likely to be concerned about chronic risk as not liking the way they look. The shift was considerable towards the risk of chronic disease as the primary impact of being overweight for those aged 35 years and above. This was followed by feeling physically uncomfortable and puffing during everyday activities for those aged over 35 years.
- In 2012 the use of scales to monitor weight was by far a more common approach than taking a waist measurement. Conversely, the use of waist measurement as a tool for monitoring healthy weight had low credibility.
- The use of reducing portion size as a weight loss and weight maintenance strategy had high credibility, high attempt rates, and high planned behaviour in 2012.

3.3 Diet and influential behaviour

- Similar to AHS results at the time, only half of 2012 survey respondents were consuming the recommended daily intake of fruit (2 pieces), with only about one in ten consuming the recommended daily intake of vegetables (5 serves).
- The most common non-core food consumed in 2012 was confectionery, including chocolates and lollies, with over one third of people consuming it “yesterday”. This was followed closely by sweet baked goods and processed meat. Fast food was the only non-core food consumed by more obese people compared to overweight or those of normal weight.
- Just over one quarter of Australians consumed a fizzy, sugar sweetened drink the day prior to undertaking the survey in 2012, consistent across all BMI classifications. Interestingly, obese people were more likely to have consumed a fizzy artificially sweetened drink the day prior to undertaking the survey, suggesting they were making some attempt to remove calories where possible.
- The same number of people (one quarter) consumed alcohol the day prior to undertaking the survey in 2012, with the highest consumption among overweight people.
- Purchasing and eating sweet or salty snack foods when not at home was a practice undertaken by about three in ten people on a planned basis, while one in four did this at least weekly on an impulse basis (no planning).
- There were significant numbers of people, and particularly those who were obese, engaging in “mindless eating”. In 2012, over half of Australians were eating their evening meal with the television on at least five times per week, and nearly one in three had eaten a snack while watching the television or an internet program.
- Over two in five Australians always or mostly finished everything on their plate, even if they felt full, with overweight and obese people significantly more likely to have engaged in this practice in 2012. While the incidence was considerably lower, obese people were also more likely to always or mostly eat too much, and to always or mostly feel uncomfortably full after eating.
- Analysis was undertaken on the 2012 survey data to investigate the strength of relationship between specific dietary behaviours and BMI. This analysis demonstrated that the following behaviours had a significant link with BMI, listed below in order of significance. It should be noted that while these are significant links, they are not necessarily causes of obesity.

1. Eat too much
 2. Eat evening meals in front of the television
 3. Drink artificially sweetened fizzy soft drink
 4. Eat no fruit
 5. Feel uncomfortably full
 6. Eat at cafes/restaurants
 7. Purchase and consume snacks on impulse when out
 8. Eat fast food
- There was a high incidence of responsibility among obese people in 2012 for behaviour that directly influenced the type and amount of food they consumed (planning, shopping and cooking), and a relatively lower incidence of the desired end behaviour (sticking to a plan and sticking to a shopping list).
 - Those who didn't make meal plans and shopping lists shopped for groceries more often, thereby exposing themselves to the opportunity to purchase inappropriate food/snacks.

3.4 Attitudes to diet

- In general, self-efficacy for healthy eating was relatively high in 2012, with around two thirds of people of the belief that they had the skills and ideas to shop for and cook healthy meals, as well as finding it an easy task. Similarly, only one quarter of people found it difficult to eat healthy food. However, overweight and obese people were significantly less likely to report these high levels of self-efficacy.
- The perceived higher monetary cost of healthy food and the good taste of unhealthy food were both significant barriers to healthy eating in 2012, particularly among overweight and obese people.
- Family and friends were significant influencers on diet, with over half of respondents claiming they found it hard not to eat unhealthy food when surrounded by family and friends doing it.
- Parents very strongly recognised the influence they had on the diet of their children in 2012, again regardless of their BMI classification. Interestingly however, obese parents found it significantly more difficult to set a good example for their children via positive role modelling.
- Nearly three quarters of respondents in 2012 believed that having a good routine encourages eating healthy foods. Significantly less obese people were of this view (although still around two thirds). Less than one quarter of respondents claimed they didn't really pay much attention to what they eat, with obese people over-represented in this belief.
- Boredom and feeling depressed were significant influencers on diet, leading often to "treating" oneself with snacks and unhealthy foods, particularly evident among obese people.

3.5 Physical activity and influential behaviour

- Accurate awareness of recommended levels of physical activity was mixed.
- In 2012 the research found that two in five people were classified as doing a sufficient amount of physical activity (that is at least 150 minutes per week). As may be expected, this was significantly lower among obese people.
- Two in five people who work spent all or most of their time sitting, compared to one quarter who rarely or never sat in their job.

3.6 Attitudes to physical activity

- The response efficacy between physical activity and weight control was very high in 2012, with the link between physical activity and health clearly understood. Similarly, response efficacy for incidental activity was relatively high.
- There was a strong belief that exercising becomes harder as you get older, which was particularly prevalent among older Australians.
- Having enough time to exercise was a significant problem for around one third of Australians in 2012, with many females, parents of young children and full-time workers claiming this was a major barrier for them.
- Benefits of physical activity that resonated particularly strongly with the community were the general “feel good” factor after doing physical activity (particularly females and younger people, but less so obese people), and that it is a good means of balancing out unhealthy food or drink.
- The monetary cost of joining a gym or participating in organised sport was a significant barrier for many in 2012, as is feeling embarrassed when exercising in public.
- Similar to diet, parents strongly recognised the influence they had on how active their children were, regardless of their BMI classification. However, follow through with positive role modelling of physical activity was significantly lower, particularly amongst obese parents.
- Over three quarters of Australians recognised that a good routine helped them to be more physically active.

Note: The remainder of the report discusses findings from the 2017 research project, unless comparisons are drawn with the 2012/2013 research.

4. Current perceptions of a healthy lifestyle

4.1 The changing perceptions of what it means to be 'healthy'

The notion of a 'healthy lifestyle' features prominently in the culture of 2017 as a broader concept than observed in 2012/2013, encompassing mental, emotional and social factors as well as physical health. On a behavioural level, it is underpinned by the idea of 'balance' between a range of reinforcing behaviours, extending considerably further than diet and exercise and tailored to accommodate personal values, needs and concerns. The qualitative research highlights the powerful influence of the media, and, in particular, the rise of social media, in contributing to this expanded and personalised view of what it means to be healthy.

The research drew particular attention to the following themes:

4.1.1 Concepts and constructs of 'health' are far broader, and positioned around 'wellbeing'

It was evident from the 2017 qualitative research, that, for many participants, a 'healthy lifestyle' was associated more strongly with a state of **holistic 'wellbeing'**, rather than as a means of preventing chronic disease. The benefits of good health were, across the board, more immediately associated with 'being and feeling', energy levels and mood 'in the moment'. In a broader sense, this was seen to translate to a range of social and functional outcomes permeating almost all aspects of life – from general self-esteem, through to forming and maintaining relationships, working, studying and parenting.

The impact of a healthy lifestyle in preventing chronic disease was often more salient for middle aged participants, reflecting the greater prominence of illness and disease in their lives – whether through caring for an ageing parent, or experiencing a health scare personally. There was a particular focus on the benefits of lifestyle in preventing Type 2 diabetes, heart disease, and, to a slightly lesser degree, cancer. Nonetheless, like younger people, they also placed considerable value on the social and emotional impacts of a healthy lifestyle, demonstrating a shift away from a strictly medicalised view of good health amongst this cohort.

Across the study, a healthy lifestyle was dimensionalised as a '**balance**' of often inter-linking and reinforcing behaviours. Diet and exercise were perhaps most prominent in the mix, but a range of more tangential behaviours were also considered important, including work-life balance, socialising, having interests and hobbies, general 'downtime', family time, and, for older participants, keeping mentally active. Good health was seen to be a result of the **cumulative impacts** of these factors: diet and physical activity alone were largely not considered sufficient.

'It's a balance between work, friends, food, fitness. People think of food and fitness straightaway but I think it's a lot more broad than that.' (Male, 18-24 years, Sydney)

Lying at the foundation of this change in the perceived constructs of health appears to be greater appreciation of the importance of good **mental health**, which, for many in this study, was valued as strongly as good **physical health**. Mental and physical health was considered to be reinforcing and inextricably linked: each essential to the other and acting in concert as the pillars of good health.

'If you look after yourself mentally, and what you put into your body, then you're going to have a healthy lifestyle.' (Female, 25-39 years, Perth)

4.1.2 Concept of 'health' is far more personalised than before

Despite consistency across the study in these broad perceptions of the constructs of good health, how this was seen to translate in terms of personal behaviour was far more subjective and individualised. The qualitative research demonstrated that the view of 'my good health' was reflective of a tailored set of behaviours and personalised objectives, created in the context of:

- Individual values and beliefs... (what is important to me?);
- Peers, culture, age and family (what is normal in my world?);
- Employment, household income and environment (what is possible in my world?).

As a result, perceptions of a 'healthy lifestyle' varied across the study. The fundamental components of good health were well recognised (diet, exercise, social life, downtime etc.) but, on a personal level, these were 'customised' both qualitatively and quantitatively. In terms of diet and physical activity, the variation observed through the study was as follows:

Table 4.1.2.1: Perceptions on diet and physical activity

A HEALTHY DIET FOR ME MEANS...				
All foods in balance	Nothing 'artificial'	Whole foods only	Home prepared foods	High energy foods
'Fresh' foods	'Organic' foods	'Local, in-season'	'Super-foods'	
All protein	Protein rich	No/little red meat	Fish only	Legumes and nuts
Carbs for energy	Whole grains only	Low GI	Gluten free	No carbs
All fruit	Selective (low sugar) fruit	Little or no fruit		
Vegetables every day	Vegetables every meal	Green smoothies	Vegetable variety	Selective vegetables
High dairy	Low fat dairy	Selective dairy	No dairy	
Avoiding saturated fat	Low fat	Avoiding fat	'Good' fat	

A HEALTHY DIET FOR ME MEANS...

Discretionary foods in moderation	Discretionary foods occasionally	Selective discretionary foods	No discretionary foods
Alcohol in moderation	No beer	Red wine	No alcohol
Regular meals	Calorie counting	Fasting periods	Portion size control

A 'PHYSICALLY ACTIVE' LIFESTYLE FOR ME MEANS...

Moving	Heart pumping	Sweating	Intense
Whenever I can	Every week	Every day	More than once a day
Yoga/Pilates	Walking	Jogging/swimming	Gym workouts
Incidental	Dedicated sessions	Routine sessions	
10-15 minutes	20-30 minutes	1 hour	1 hour +

As the table illustrates, while the concept of health has broadened generally, it has also **fractured**, as individuals pick and choose a version of a 'healthy lifestyle' that makes sense to them, and is both endorsed and viable in their 'world'. The research suggests that, as a result, the notion of subscribing to a general set of health principles for 'all Australians' may be losing resonance.

'We are all different. Our systems all work in completely different ways....there are things online that will help you but wouldn't help me.' (Male, 18-24 years, Sydney)

4.1.3 Selective processing of information

This fracturing of the concept of a healthy lifestyle reflects a changing media landscape and a stronger societal focus on the topic than there had been before. The qualitative research demonstrates that at a basic level, an individual's ideas of 'healthy' appear to be set in childhood, through parental role modelling, school based education and broader societal and peer influences. However, this core 'truth' about what a healthy lifestyle comprises is tweaked, added to and updated through exposure to a wide and diverse range of messages that both promote and perpetuate the notion that we can – and perhaps should - customise our health needs to suit our body, our mind, our life-stage, our peers and our culture. The **personalisation** of health appears to have become, in a sense, aspirational.

As detailed further in Section 10, the research drew attention to the **proliferation of health messages** from an array of sources, from family and friends, to health experts, personal trainers, naturopaths and nutritionists, to social media, bloggers, television programs, magazine articles, supermarkets, and celebrity chefs. While for the more engaged participants, health related information was actively sought out – for many – if not most – exposure appeared to be both passive and unavoidable – a focus of social networks, and entertainment, as much as information – much of which is delivered with the intent of eliciting popular interest and engagement as much as – or even more than – relaying fact.

For audiences, the effect is, on the one hand, confusion at what to engage with; and on the other, a range of alternate 'health facts' from which people can take what they will. The research revealed a sense of feeling overwhelmed, and to some extent intimidated or even distressed by the plethora of lifestyle related messages to which participants were almost constantly exposed.

'It gets confusing – you're used to one story in your head – like porridge is good for you – eat it – and then another study comes out saying it's not.' (Female, 18-24 years, Sydney)

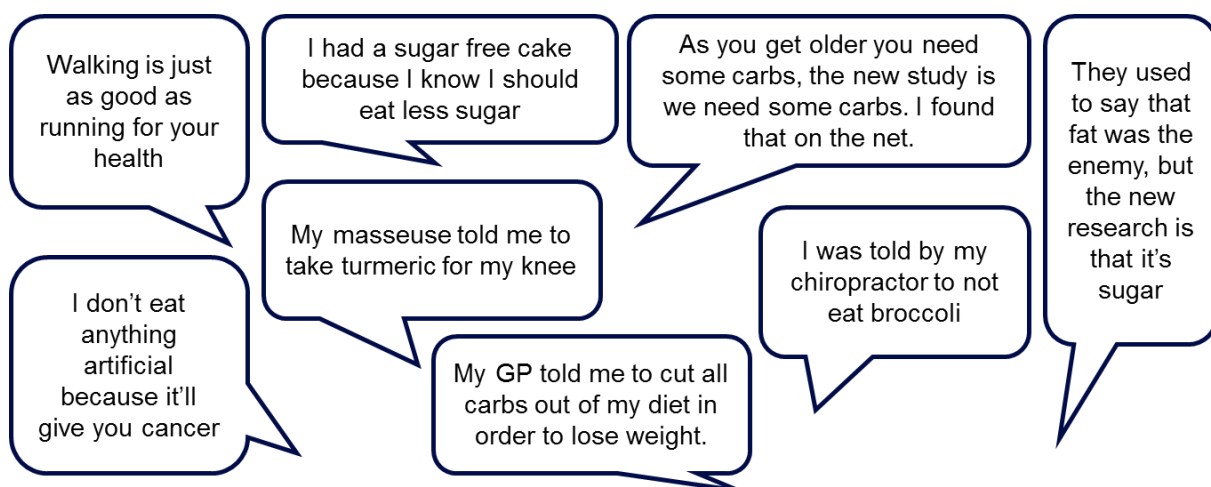
This sense of confusion leads audiences to content that **validates their pre-existing views or behaviours**, which, in a media saturated environment, is not hard to find. **Confirmation bias** in the way that health related information was processed and interpreted was evident across the study. For many of the younger participants, this 'selective processing' appeared to be amplified in social media environments, by virtue of exposure to messages already reflective of peer norms and values.

'Eat like a king for breakfast and like a pauper for dinner – that really resonates a lot more than some of those fad things, like those replacement shakes... that stuff I would look at more sceptically.' (Mother, 25-39 years, Sydney)

'They influence me when I can understand the reasons behind their advice and recognise the sense and truth in what they're saying. I often won't take their advice at face value without weighing it for myself to see what would be realistic for my situation and what is likely to benefit me.' (Mother, 25-39 years, NSW)

Within the multiplicity of health-related information, for many participants, the primary source of the information appeared to be often overlooked, with validity, instead, provided by exposure across several channels, and peer or celebrity endorsement.

Figure 4.1.3.1: The alternate 'health facts' about healthy lifestyle (qualitative)

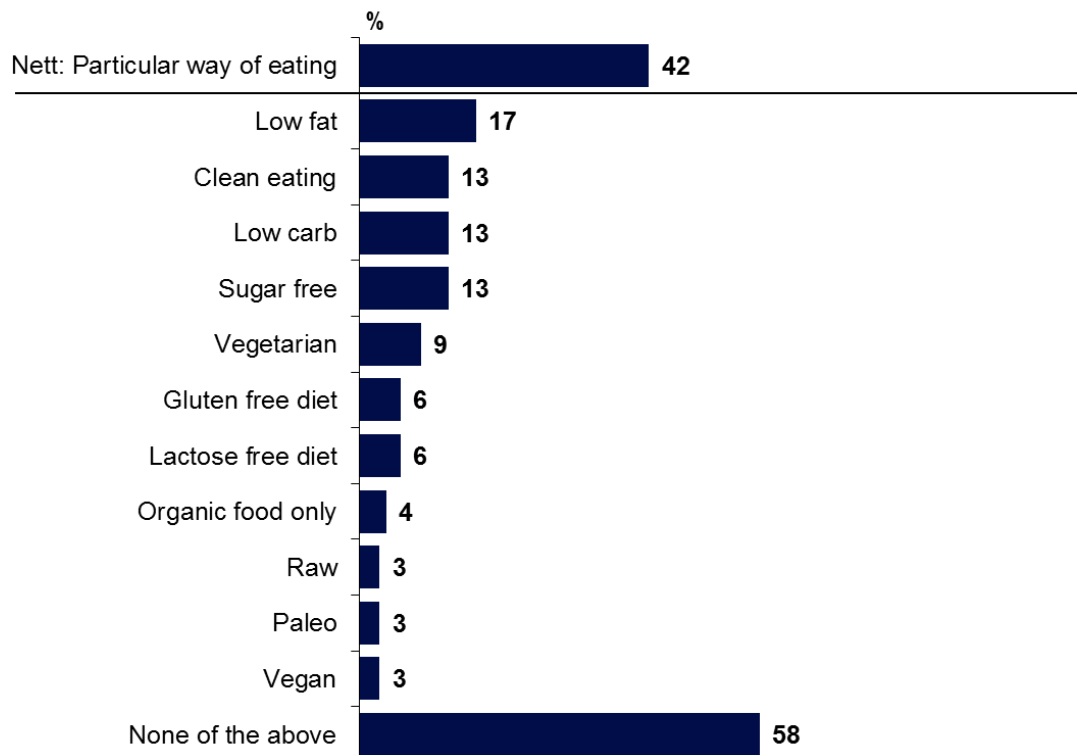


4.2 Self-reported perceptions of 'health' and being 'healthy'

This personalisation of health is borne out in response to different ways of eating, with two in five adults in the online survey (42%) self-identifying with a specific philosophy or type of diet. Interestingly those who identify with a particular way of eating, identify with not only one way, but on average 2.2 different ways of eating. Those most likely to identify with different ways of eating were the Committed (60% of this segment) and Engaged (51% of this segment) segments, and those more likely to rate their lifestyle, diet and physical activity as healthy. Those who are likely to try and lose weight in the next twelve months, are more likely to be following a low carb or clean eating or gluten free diet.

Respondents who indicated that their diets were lactose free, gluten free, or low carb were prompted if they followed this way of eating based on medical advice. Three quarters of lactose free (76%) and gluten free (75%) consumers had based this choice from medical advice, whereas only a third (34%) of low carb consumers were following this way of eating based on recommendation from a health professional/medical diagnosis.

Figure 4.2.1: Follow any particular way(s) of eating



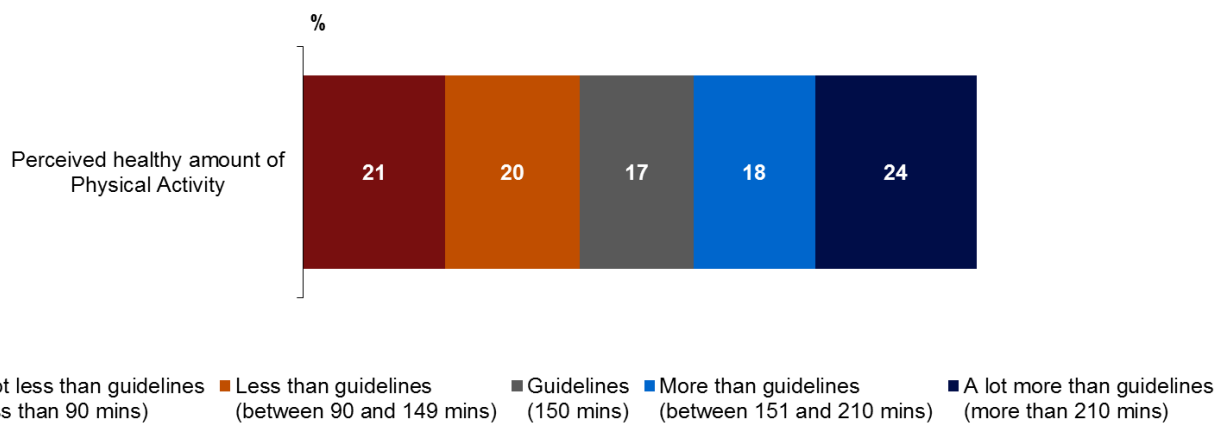
SOURCE: A4: Do you follow any particular way(s) of eating?

BASE: All respondents (n=3150)

Note: Responses less than 3% not shown

While there is not a lot of variation across sub groups in the population in what is deemed to be a healthy amount of physical activity, there are less than one in five people who can correctly nominate 150 minutes per week as a 'healthy' amount of physical activity, with two in five adults (41%) claiming that amounts of less than 149 minutes per week is 'healthy', and the remaining 42% claiming amounts of more than 150 minutes is 'healthy' (24% believe more than 210 minutes per week is required). Aboriginal and Torres Strait Islander people and the Denial segment are significantly more likely to underestimate what is healthy in terms of physical activity with 64% and 51% respectively nominating less than the Australian Physical Activity and Sedentary Behaviour Guidelines.

Figure 4.2.3: Perceptions of healthy amount of Physical Activity



SOURCE: A9: Thinking now about physical activity and how this contributes to your health, how many days a week do you think you should be physically active to be healthy? By being active we mean raising your breathing rate.
 BASE: All respondents (n=3150)

5. Australian Dietary Guidelines

In Phase One of the qualitative research conducted as part of this study, participant response to Guidelines 1 to 3 of the Australian Dietary Guidelines, and supporting material was sought (including the Australian Guide to Healthy Eating (AGTHE)). This section details their response, describing their **knowledge and understanding of the Guidelines**, and perceptions of their **credibility, efficacy and value** as guides to a healthy lifestyle.

5.1 What is the role of lifestyle guidelines in contemporary Australian society?

Many participants in the qualitative research spontaneously mentioned the **food pyramid**, as one of the original 'building blocks' in their understanding of a healthy lifestyle, typically encountered at school. While the pyramid was useful in a general educational sense, it tended not to be referred to again, and few could recall its content. There was very low spontaneous and prompted recall of the Australian Dietary Guidelines, with parents of primary school aged children most likely to recognise the AGTHE poster. In this health obsessed world, a set of general dietary guidelines was considered helpful but static: superseded by a more flexible, individualised and dynamic approach to acquiring knowledge on the topic.

This component of the research raised as many questions about the role and remit of the Australian Dietary Guidelines on a conceptual level as it did around the way that the guidelines are conveyed and articulated. Views of the value and benefits of a single set of guidelines varied considerably across the research, particularly for those with different levels of engagement with health-related information.

- On a very broad level, for older, less healthy and overweight individuals the concept of a single guide strongly appealed in **cutting through the 'haze'** of multiple, often contradictory dietary related messages and advice, **potentially offering a clear and simple 'way forward'** for making positive lifestyle changes.
- For younger and more health engaged people, however, there was a sense that this type of 'static' information lacked resonance and relevance in a landscape dominated by high tech, fast moving and frequently changing lifestyle advice. To some extent, to this audience, a single set of dietary guidelines seemed **anachronistic and impractical** – out of kilter with the way that they sought, digested and applied health related information.

Allied with the divergent perceptions of the relevance of a set of guidelines for healthy lifestyles, were differences in preferences and priorities for messages and content. Most in the study prioritised **clarity of message** and strong and specific, unambiguous direction, and were critical of messages that appeared to be vague or lacked quantification. Conversely, however, many saw a strong need for messages to be **flexible and adaptable** to individual needs and circumstances, typically rejecting messages that appeared to be overly rigid or prescriptive.

A final tension emerged in relation to a desire for **specific advice and instruction** to prompt self-assessment and motivate behaviour change, on the one hand, and the negative impacts of guidelines that seemed extreme and unachievable in **limiting self-efficacy** to try on the other: a concern that was particularly prominent amongst those in greatest need of making lifestyle changes.

These findings highlight the many challenges involved in engaging a single resource to accommodate the considerable variation in the knowledge and understanding, perceptions, motivations and behaviours of the Australian populace in relation to lifestyle, in a meaningful and relevant way. The ambiguities in response to the Australian Dietary Guidelines revealed through this research are unsurprising given the breadth and diversity of this audience, but may have important implications for the positioning of the guidelines moving forwards.

5.2 The Australian Dietary Guidelines are broadly accepted, though may lack meaning and actionability

The Australian Dietary Guidelines were universally accepted across the study, largely reinforcing existing beliefs about what a healthy lifestyle should involve. They were considered fairly self-evident, but nevertheless credible and legitimate.

However, the lack of easy to understand recommended quantities within the Guidelines – either in terms of dietary intake or physical activity – provided scope for an **‘open interpretation’** of acceptable amounts and frequencies, interpretation of which is predicated on existing behaviours and belief. This flexibility was appealing to some participants, in accordance with the desire to tailor behaviours to accommodate a ‘personalised’ healthy lifestyle. Nonetheless, it appeared to be somewhat weak as a behavioural motivator, tending to provide validation for lifestyles that were clearly less than healthy, rather than prompting critical self-assessment or reflection.

More detail around the response to specific Guidelines appears below.

GUIDELINE 1: ‘To achieve and maintain a healthy weight, be physically active and choose amounts of nutritious food and drinks to meet your energy needs.’

- Guideline 1 was considered to be a credible statement, and was endorsed by participants across the study. Nonetheless, the notion of ‘balance’ implied within this statement was not always well-understood. While most participants accepted the relationship between eating nutritious food, being active and maintaining a healthy weight, for some overweight and obese participants, diet and physical activity tended to be seen as discrete behaviours, with little consideration of the links between them. For this cohort, this statement was seen to be conveying two separate messages – be active and eat nutritious food: both of which were considered self-evident. Questions were also raised around the practical application on this guideline, particularly in regard to **how personal energy needs should be assessed, and then accommodated through lifestyle**. While some liked the flexibility and adaptability conveyed by the statement, for others, the implied need to determine appropriate amounts was considered potentially complex and off-putting.

GUIDELINE 2: 'Enjoy a wide variety of nutritious foods from the five food groups every day'

- Guideline 2 was widely accepted, though was again considered a little trite: reinforcing existing knowledge and beliefs about the importance of variety in diet, rather than providing any new information or advice. This guideline was commonly associated with the central message of the Food Pyramid – which was seen as an authoritative if slightly outdated source. While this added to the reliability of the message, it also seemed to position this guideline as somewhat outmoded. Moreover, recall of the five food groups tended to be fairly low, with many incorrectly assuming that discretionary foods were included, as they are in the Food Pyramid. As a result, while Guideline 2 was positive and affirming for those whose lifestyles were already healthy, like Guideline 1, it did little to challenge unhealthy behaviours, or prompt self-assessment (see comments on the AGTHE plate below).

GUIDELINE 3: 'Limit intake of foods containing saturated fat, added salt, added sugars and alcohol'

- Guideline 3 was also broadly in keeping with existing beliefs: reinforcing a generally accepted 'truth' about the importance of limiting discretionary foods for good health. However, the non-specific language again allowed participants to interpret the message to align with their own beliefs or behaviours – with suggestions that 'limiting' your intake might range from once a fortnight to once or twice a day. Applying Guideline 3 was thought to be particularly challenging, reflecting the strong emotional pull of discretionary foods and their association with comfort, temptation, cravings and even addiction – particularly for sugar. Self-efficacy around activating this guideline was therefore relatively low, with many participants expressing a desire for assistance (how to include in meals etc.) rather than instruction to this end.

5.3 Australian Guide to Healthy Eating 'plate'

The AGTHE 'plate' is a visual representation of the Australian Dietary Guidelines 2 and 3.

First impressions of the 'plate' resource were largely positive. The use of bright colours and clear images were considered visually appealing, serving to draw audiences in and encourage engagement, while conveying a suitably authoritative 'look and feel' for the resource.

However, many participants were confused by the **content of the resource**; particularly in relation to the recommended proportional intake of the five food groups. While the recommended size of each food group relative to the others was considered clear, some struggled to translate this into actual serving sizes. There was also some uncertainty around whether the dietary proportions were recommended for each meal, each day or each week. Once again, the non-specific language around discretionary foods ('small amounts' and 'sometimes') was subject to misinterpretation.

'I think it's very visually appealing (e.g. food looks realistic and they are in proportion to each other). I don't think it provides enough information for people who have no idea about healthy eating to eat the right proportions. I also don't think it provides enough detail for people who are not thinkers (e.g. people who need to be told everything each step of the way)' (Mother, 40-50 years)

Participants also queried the **reliability of the content** of the plate resource, viewing the recommendations around the proportional quantity of each food type to be at odds with prevailing views and advice around what a healthy diet should include. This was particularly evident in regard to the recommended quantity of **grains and cereal foods**, which was thought to be inflated, and in direct conflict with contemporary advice, thought generally to advocate limiting carbohydrate intake, both as a means of losing weight, and for general health and wellbeing.

The nutritional value of many of the food types depicted on the plate as examples of recommended foods within the 'grains' category was also questioned, with particular focus on pasta, crumpets and English muffins, which many be considered to be unhealthy foods. The disconnect between these recommendations and contemporary 'good health' messages led some to begin to doubt the veracity of the resource generally.

While most scepticism centred around the representation of grains in the resource, questions were also raised around recommended quantities of several of the other food groups, including **lean meats and poultry, fish, eggs, tofu, nuts and seeds and legumes and beans** (which most thought was under-represented), **fruit** (which some thought was under-represented), and **milk, yoghurt, cheese and/or alternatives** (which many thought was over-represented, though some older women thought was under-represented). The proportional serving size suggestion for vegetables was the only part of the plate that was largely uncontested.

'This is getting me confused – because the bread – the bread is like fat for me... it's not that healthy. It says you need a lot.... Yes that wouldn't work for me. I don't burn carbs very efficiently. That would not allow me to achieve my health goals. I would have to eat a larger proportion of fruit and veggies and protein.' (Mother, 25-39 years, Sydney)

'I don't agree with a few things. Like I like fruit and it is good fats and good sugars. Why is it so frowned upon? And why's breads such a large slice of the pie?' (Mother, 25-39 years)

5.4 Perceptions of serving sizes

Participant response was also specifically sought in relation to serving size information provided on several of the Government's Eat For Health resources (this included both the total recommended servings per day and the standard serving size). These were considered **overly prescriptive**, conflicting with a perceived need to tailor lifestyle advice to accommodate individual concerns and outlooks.

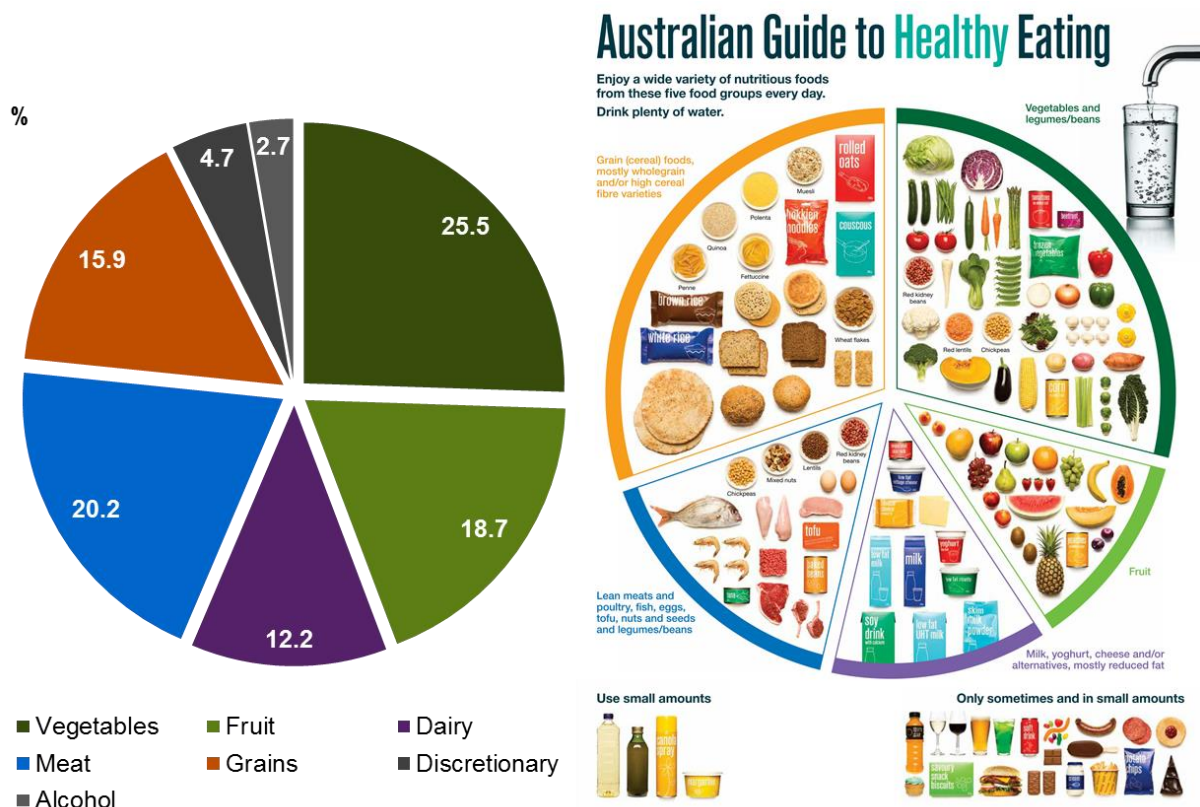
Issues were also raised around the **reliability and viability** of some of the recommendations, with their perceptions largely mirroring the drivers and barriers to healthy eating detailed throughout this report. In summary, however, responses to recommended serving sizes for the five food groups were as follows:

- **Vegetables and legumes/beans:** Recommended servings of vegetables were widely considered to be credible, but largely unachievable. Many felt incapable of incorporating five serves of vegetables into their daily diets, reflecting a host of both internal and externally driven barriers to consuming vegetables, from a perception that they were unexciting to eat and time-consuming and difficult to prepare, to normative influences that position vegetables as a dinnertime food only, and concern about cost and wastage.
- **Fruit:** The recommended serves per day of fruit elicited a mixed response. Some in the study felt that it was very low, viewing the regular consumption of fruit as essential to a healthy diet. Acceptance of this recommendation was far greater for those who were conscious of contemporary thinking limiting fruit consumption due to its sugar content. As a target, however, this recommendation was largely considered achievable by most study participants.
- **Grains (cereal) foods:** As for the representation of grains on the AGTHE 'plate', there was again, widespread rejection of the recommended servings of grains. This was seen to be excessively high, and in direct conflict with 'current' dietary advice to 'cut carbs'. This caused confusion and concern for many of those in the study, for whom avoiding carbohydrates was a health priority.

- **Lean meats and poultry, fish, eggs, tofu, nuts and seeds, and legumes/beans:** There was more acceptance of recommended serving sizes of protein – though some were of the view that it was slightly low, and should possibly include a greater quantity of ‘white meat’.
- **Milk, yoghurt, cheese and/or alternatives:** Response to recommended servings of dairy was again mixed. This recommendation was discredited by the relatively large number of participants who saw dairy as potentially harmful to health (these participants could consume dairy alternatives instead). Others – particularly older women – were conscious of the importance of consuming calcium for bone health – and felt that the recommended quantity was very low.

These perceptions were further evident in the quantitative study, when respondents were asked to proportion food groups according to what they personally believed constitutes a healthy diet. At a total population level, there is clear recognition of the importance of vegetables as a large component of a healthy diet (on average survey respondents considered it should be 26% of a healthy diet), while the amount of fruit and meat are overestimated, and the amount of grains is underestimated (see figure below). There are a number of cohorts identified in the survey that claim significantly lower intake of vegetables as a component of a healthy diet including obese Australians (24.4%), Ambivalent (24.2%), Deniers (23.6%), males (23.9%), younger people (aged under 35 years) (24.1%) and Aboriginal and Torres Strait Islander people (19.2%). Parents claim significantly higher amounts of discretionary foods are appropriate for a healthy diet than other cohorts (5.2%), as well as the Denial segment (6.3%).

Figure 5.4.1: Perceptions of which food groups constitute a healthy diet



SOURCE: A6: Thinking about all the food you eat across the course of the day, what proportion of each of the following food groups do you personally believe constitutes a healthy diet?
 BASE: All respondents (n=3150)

6. Developing a segmentation

A primary focus of this study was unpacking the drivers of and barriers to a healthy lifestyle. Five specific behaviours which underpin health were selected for exploration through the research.

These were:

- Eating vegetables
- Eating fruit
- Limiting discretionary foods
- Engaging in physical activity
- Controlling portion size.

A diagnosis of the factors influencing each of these behaviours was undertaken in both the qualitative and quantitative phases of the research, examining both the 'reflective', belief driven drivers and barriers, as well as external, environmental and heuristic influences. These are described in detail in Section 7.

The qualitative phase of the research demonstrated that three of these behaviours – eating vegetables, limiting discretionary food, and engaging in physical activity – were more closely linked with perceptions of health than eating fruit or controlling portion size, and as such should be the foundation for forming a segmentation model. The qualitative research further demonstrated that influences related to discretionary food were different depending on whether the discretionary food was 'fast food' or 'snack food'. As such four behaviours were used to develop the segmentation as follows:

- Eat at least 3 serves of vegetables every day. While this does not equate to the Australian Dietary Guidelines, the qualitative research demonstrated that it was a more realistic target, and delineated more accurately across different weight classifications. Further, segmenting around consumption of 5 serves per day would have eliminated most respondents due to general perception that this amount is unachievable.
- Do at least 2½ hours (150 minutes) of physical activity per week that raises my breathing rate (or 30 minutes, 5 days a week).
- Limit how often I eat fast food (e.g. McDonalds, KFC, fish and chips, pizza, but not including restaurant take away).
- Limit the amount of sweet snacks (biscuits, cakes, chocolates, ice cream etc.) or salty snacks (chips, salted nuts, salty crackers etc.) I eat.

In order to measure commitment, each of these behaviours was then assessed against the following three dimensions:

- **Cognitive dissonance:** or the extent to which respondents are comfortable with their behaviour - “comfort” (feeling fantastic) to “discomfort” (feeling terrible);
- **External influence:** or the extent to which people believe it would be challenging to change or consistently engage in the particular behaviour, even if they really wanted to; and
- **Ambivalence:** or the extents to which people are torn when they think about doing the behaviour consistently.

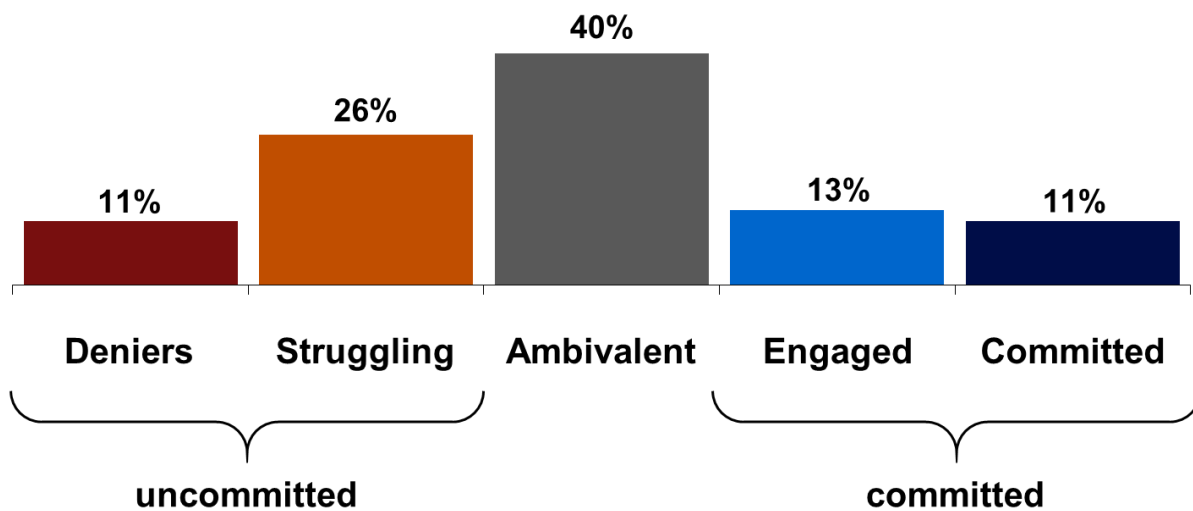
Finally, a fourth dimension of commitment was measured for the overarching behaviour of ‘eating healthy and being physically active’:

- **Involvement:** or the extent to which people consider the issue/behaviour something that is important to them personally.

As outlined in Section 2.3.4, generally this model produces six commitment based segments. However, this research identified five segments relating to commitment towards eating healthy and being physically active, as summarised below. The ‘Difficult’ segment did not emerge in this research, due to this segment reserved for people who are against the concept being talking about. In the case of eating healthy and being physically active, the population is more likely to be ambivalent rather than outright opposed to the topic. The segments have also been named to better describe their commitment levels towards these behaviours.

- **Committed (Advocates):** 11% of Australians were found to be Committed. These respondents have the strongest commitment (consciously and unconsciously) and are most likely to role-model the desired behaviours (dietary and physical active), and seek to influence change among those around them.
- **Engaged (Attainers):** Over one in ten (13%) of respondents are Engaged. These individuals are strongly committed to the correct behaviour, however, they are unlikely to actively seek to influence others – unless inspired to do so.
- **Ambivalent (Followers):** The largest segment was found to be Ambivalent, with 40% falling into this category. These individuals have a desire to do the ‘right’ behaviour, but are strongly influenced by external sources.
- **Struggling (Fluctuating):** The second highest segment, with 26% of the sample is struggling. These individuals are strongly conflicted in their behaviour and while they may not ‘actively’ want to exhibit undesired behaviours, their unconscious attitudes serve as barriers.
- **Deniers (Denial):** 11% of respondents were found to be in the Denial segment, refusing to acknowledge their behaviour (eating healthy and being physically active) is something that should be taken seriously for them personally. They are the most likely to be exhibiting the undesirable behaviour.
- An overview of the five healthy lifestyle overarching segment profiles is provided below. A detailed profile of each segment is provided in Section 11.

Figure 6.1: Distribution of commitment segments



SOURCE: CM1: Thinking about each of the things listed below, how often would you do them, where 0 is never and 10 is always?
 CM2: How do you anticipate consistently doing this would make you feel?
 CM3: And, when you think about doing this all the time, how challenging would this be for you to do?
 CM4: When you consider doing this consistently every day, what do you think ...?
 CM5: When you think about all the things that matter to you in your life, where do you place 'eating healthy and being physically active'?
 BASE: All respondents (n=3150)

6.1 Committed (11% of Australian adults)

Committed have the highest proportion of females and high household income respondents. They are more likely to be normal weight and have greater responsibility when it comes to shopping, preparing, and planning of meals. They believe having a healthy lifestyle is important and are the least likely to consume discretionary food. They describe themselves as organised and routine driven.

Behaviourally

- Committed consume the highest amount of fruit and vegetables, and are the most likely to have a 'way of eating', including being vegetarian, low carb and sugar-free.
- 26% of Committed eat on or above the vegetables Australian Dietary Guidelines recommendation of five serves of vegetables per day.
- 65% of Committed eat on or above the Australian Dietary Guidelines recommendation of two serves of fruit per day.
- 58% of Committed are achieving a sufficient amount of physical activity;
- They are the lowest consumers of all discretionary food.

Diet attitudes

- Committed have the highest levels of self-efficacy - believing they have the ideas, information and skill to cook or shop for healthy meals.
- Committed have the lowest levels of perceived cost with the majority of the segment feeling that they have enough time to think about their diet.
- Committed are the least likely of all segments to be influenced by setting and have high will power, with few purchasing unhealthy snacks on impulse or planned in advance and resisting unhealthy food even if they love the taste of it.

Physical activity attitudes

- Committed view physical activity as highly beneficial to their health, as well as wellbeing (think better, sleep better, and feel good).
- They are the segment that least agrees that they only exercise when trying to lose weight.
- Committed are more likely to be doing a sufficient amount of physical activity, and believes you should be exercising 6-7 days a week. Their perceived amount of physical activity is a lot more than the Australian Physical Activity and Sedentary Behaviour Guidelines.

6.2 Engaged (13% of Australian adults)

Engaged are more likely to be females, mid to high household income and university educated. High proportions of Engaged have a 'way of eating' and believe having a healthy lifestyle is important. Fewer obese respondents reside in this segment with the majority being normal weight. This segment is more likely to engage and follow social media content about diet/physical activity.

Behaviourally

- 17% of Engaged eat the Guidelines' recommended number of serves of vegetables.
- 66% of Engaged eat the Guidelines' recommended number of serves of fruit.
- 56% of Engaged are achieving a sufficient amount of physical activity.
- They are moderate consumers of confectionary and sweet baked goods.

Diet attitudes

- Engaged have a high level of self and response efficacy, believing they have the right information, skills and time to shop and cook healthy meals. They are likely to find it easy to cook healthy meals and have good dietary knowledge and understand nutrition labels.
- There are fewer costs of eating healthy perceived by this segment. They enjoy eating healthy food and do not let cost, time or waste get in the way of consumption.
- They are less influenced by external factors such as setting, friends and peers, events, specials and promotions/advertising.

Physical activity attitudes

- Participating in physical exercise is viewed as highly beneficial to 'Engaged', particularly for immediate and long term health. They are less likely to believe you should only be exercising when trying to lose weight.
- This segment contains a higher proportion of those who enjoy and find it easier to exercise with friends or a team.
- They also have the strongest view on what 'counts' as physical activity, with a high proportion agreeing that you need to be puffing and sweating.

6.3 Ambivalent (40% of Australian adults)

'Ambivalent' are more likely to be males aged 25-34 years old. They are low to middle household income, slightly skewed to regional and have the largest proportion of Aboriginal and Torres Strait Islander respondents. This segment consumes the most amount of discretionary food and believes that having a healthy lifestyle is 'not that important'.

Behaviourally

- 9% of Ambivalent eat the Guidelines' recommended number of serves of vegetables.
- 47% of Ambivalent eat the Guidelines' recommended number of serves of fruit.
- 36% of Ambivalent are achieving a sufficient amount of physical activity.
- They are high consumers of confectionary, sweet baked goods, and salty snacks.

Diet attitudes

- Ambivalent feel they lack the time to cook, prepare and shop for healthy meals. They also have lower self-efficacy finding it somewhat difficult to cook healthy meals, not possessing all of the skills required.
- 60% of Ambivalent wish they could improve their diet.
- They are the segment that perceives time and energy costs involved in healthy eating as the highest.
- They love the taste of unhealthy food and do not enjoy eating healthy foods, finding vegetables boring to eat.
- Ambivalent are influenced by their setting finding it habitual to eat chocolate or unhealthy snacks at work, or purchase them at the checkout. They are also tempted by unhealthy food advertisements.

Physical activity attitudes

- Ambivalent do not perceive the benefits of doing physical activity, and are the most likely of all segments to believe that immediate and long term health will not be affected by how physically active they are.
- They also perceive time costs as well as indicate little enjoyment in any sort of physical activity. Ambivalent lack the confidence to exercise, feeling uncomfortable in exercise clothes or that gyms/fitness centres are not welcoming.
- Ambivalent have a higher proportion of respondents who falsely believe they do not need to regularly exercise because they are active enough in everyday life.

6.4 Struggling (26% of Australian adults)

Struggling has the highest incident of obese people, and larger proportion of those aged 50-64 years. They are more likely to have high cholesterol or blood pressure and less able to exercise due to illness, injury or a disability. They are skewed slightly toward females, higher household income, and metro respondents. They are not comfortable with their weight/body shape and would like to try and lose weight.

Behaviourally

- 9% of Struggling eat the Guidelines' recommended number of serves of vegetables.
- 50% of Struggling eat the Guidelines' recommended number of serves of fruit.
- 42% of Struggling are achieving a sufficient amount of physical activity.
- They are one of the highest consumers of confectionary and sweet baked goods.

Diet attitudes

- Struggling are confident that they have the skills and knowledge to shop and cook healthy meals. However, they have low response efficacy and find it difficult to maintain the healthy eating, especially when busy.
- 69% of Struggling wish they could improve their diet and 83% feel they need to be more physically active (highest of all segments).
- External influences (setting) impact behaviour with Struggling and they eat unhealthy food when at gatherings/special events, out with friends/family, or if specials/deals attract their attention. They are also vulnerable to emotional stresses, snacking when bored or eating unhealthy food when feeling depressed or anxious.
- The cost, wastage and time preparing of healthy food are felt to outweigh the perceived benefits for Struggling.

Physical activity attitudes

- There is a high level of recognised benefits from doing physical activity, with Struggling agreeing they think, sleep and feel better all round after engaging in some exercise. There is a high proportion of this segment that only exercises when trying to lose weight.
- Perceived costs include not enough time, difficulty with age and the price of participating in physical activity, resulting in this segment not achieving the sufficient amount of exercise recommended.

6.5 Deniers (11% of Australian adults)

Deniers are more likely to be males, lower household income, and less educated respondents. They do not believe having a healthy lifestyle is important and do not engage in content about diet/physical activity on social media. They do not describe themselves as routine and organised individuals, and are less likely to be responsible for shopping or meal preparing.

Behaviourally

- 8% of Deniers eat the Guidelines' recommended number of serves of vegetables.
- 39% of Deniers eat the Guidelines' recommended number of serves of fruit.
- 36% of Deniers are achieving a sufficient amount of physical activity.
- They are the highest consumers of all baked goods (sweet and savoury), salty snacks (tied with Struggling), and takeaway.

Diet attitudes

- Deniers lack self-efficacy, with a lower confidence in preparing and cooking healthy meals. They do not feel equipped with the right information, skills and ideas and therefore find eating healthy difficult.
- Deniers are least likely to want to improve their diet.
- They find it difficult to understand nutrition labels. They feel they are time poor when it comes to shopping, preparing and cooking healthy meals ('they don't have time').
- Deniers are more likely to perceive healthy foods as costly and find vegetables boring to eat, and 'eating healthy foods' is something they do not enjoy.

Physical activity attitudes

- Deniers are the least likely to perceive the benefits to one's own health from doing physical activity i.e. stress relief, clearer mind, improved sleep, feeling good.
- They are least likely to feel they need to be more physically active.
- Deniers are least likely to be influenced by social norms and do not feel obliged to meet them.

7. Understanding the drivers and barriers to healthy lifestyle behaviours

While the research focused on the five behaviours as previously outlined (eating vegetables, eating fruit, limiting discretionary foods, engaging in physical activity and controlling portion size), it became clear through both the qualitative and quantitative phases of the research there are a number of factors that appeared to act as 'core' determinants of a healthy lifestyle generally. These were observed to underpin the capacity, capability and inclination of people to engage in a healthy lifestyle in many ways, emerging time and time again through the research, as key drivers of or barriers to healthy living on a broad level. These are outlined in this section of the report, with a detailed description of the influences for specific behaviours provided in Section 8.

7.1 A range of external factors enable or obstruct a healthy lifestyle

The qualitative and quantitative research highlighted the powerful impacts of a range of external and environmental factors serving either to enable and facilitate a healthy lifestyle, or to make it extremely challenging:

The critical influence of time: Time was identified by participants throughout the study as one of the primary factors influencing their capacity to engage in healthy behaviours. Throughout the study, those participants who were time-poor tended to face fairly considerable barriers to leading a healthy life – whether in terms of diet or physical activity. Many qualitative participants asserted that they were simply too busy or too tired to be inventive or creative with family meals, or find a moment to engage in physical activity. Some 54% of respondents to the quantitative survey, for instance, agreed that “when you’re busy, it’s so much easier to just grab takeaway than cook at home”, while only around two-thirds (64%) agreed that “I feel I have time to cook/prepare healthy meals”, and 69% agreed that “I feel I have the time to shop for healthy meals”. Those who were significantly more likely to agree that “I feel I have the time to shop for healthy meals” included respondents without children (73%), Committed (84%), Engaged (83%) and Struggling (75%).

Obese survey respondents were significantly more likely to agree that when you’re busy it is easier to grab takeaway (62%), and significantly less likely to feel they have the time to cook and prepare healthy meals (60%). Interestingly survey respondents with a household income of \$60-100k were significantly more likely to think it is easier to grab takeaway when you’re busy (59%), but also significantly more likely to feel they have the time to cook and prepare healthy meals (70%). Other groups significantly more likely to think it is easier to grab takeaway when you’re busy are 18 to 34 year olds (65%), males (58%), parents (58%), CALD respondents (59%), and Aboriginal and Torres Strait Islander respondents (79%).

Those who were significantly more likely to believe they did not have time to think about their diet included the Ambivalent segment (29%), CALD respondents (32%), Aboriginal and Torres Strait Islander respondents (57%), younger respondents aged 18-24 (33%) and 25-34 (38%), males (28%), those with a young family (33%), and not surprisingly those who are employed (28%).

Figure 7.1.1: Influence of time on healthy diet



SOURCE: C1: To what extent do you agree or disagree with the following statements about healthy eating?

BASE: All respondents (n=3150)

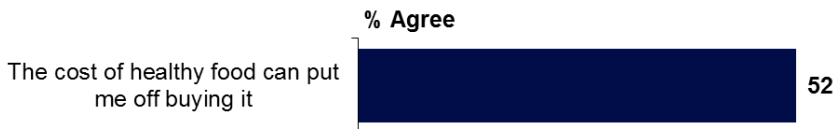
NOTE: *Asked of those have responsibility for shopping (n=2699)

Resources and opportunity: Financial resources also appear to have a considerable bearing on capacity to engage in healthy behaviours – particularly around diet. The qualitative research evidenced that amongst lower household income cohorts – and notably younger people who had recently moved out of the family home – there was a sense of ‘struggling through life’, driven by financial concerns and constraints, and this focus dominated their lifestyle. Simply ‘getting by’ took precedence over anything else. By contrast, those in higher socio-economic strata and/or with greater disposable income (notably SINKS and DINKS) tended to have greater agency to direct their lifestyle in other ways, and embrace healthy behaviours without much difficulty.

*‘If I just had a microwave at work, I could heat up some steamed vegetables. But I end up going to Subway or the local take-away shop because anything else is too expensive.’
(Father, 25-39 years, Wagga Wagga)*

Regardless of household income, around one half of survey respondents (52%) claim the cost of healthy food can put them off buying it. There were a number of groups however, who were significantly more likely to consider this the case – respondents living in regional areas (56%), obese respondents (57%), parents (57%), respondents with a household income between \$60-100k (61%), those aged 18 to 34 years (62%), Aboriginal and Torres Strait Islander respondents (81%), and the Struggling segment (57%).

Figure 7.1.2: Influence of cost on healthy diet



SOURCE: C1: To what extent do you agree or disagree with the following statements about healthy eating?
BASE: All respondents (n=3150)

Routine facilitates the formation of positive habits: Routine emerged through the research as a significant enabler of a healthy lifestyle – both in terms of diet and physical activity. Those whose lives followed a fairly predictable routine found it easier to embed healthy behaviours – developing an approach that ‘worked’ for them within the context of their lives, and was easy to maintain, often becoming habitual over time. The qualitative research showed that this was notably less evident amongst those whose lifestyles were less predictable (e.g. new mothers and shift workers). Even when they were motivated to be healthy, the inability to plan made this very difficult. Further, when routines were disrupted, unhealthy behaviours often formed. Many qualitative participants, for instance, were healthy through a typically structured working week, while, when the weekend came, would eat poorly and do little physical activity.

The value of a routine to a healthy lifestyle was well recognised across the study, with some eight in ten respondents (79%) in the quantitative research agreeing that “having a good routine in your life helps you to eat more healthy foods.” Those respondents with a high household income (>\$150k) were significantly more likely to appreciate the impact of routine on healthy eating (88%), while 18 to 24 year olds and low household income (<\$60k) were significantly less likely (71% and 73% respectively). Committed, Engaged and Struggling were also significantly more likely to agree that having a good routine helps you eat healthier (96%, 93% and 85% respectively) while Ambivalent and Deniers were significantly less likely to recognise the impact of a routine (71% and 57%).

Figure 7.1.3: Influence of routine on healthy diet



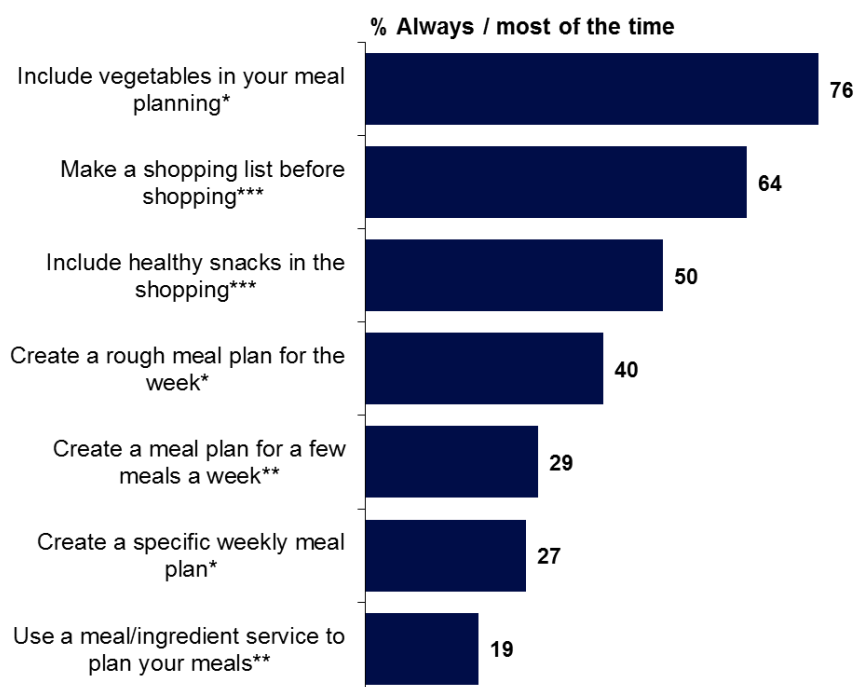
SOURCE: C1: To what extent do you agree or disagree with the following statements about healthy eating?
BASE: All respondents (n=3150)

Planning meals and preparing shopping lists has a clear link with obesity, with obese survey respondents significantly less likely to make a shopping list (57%), include healthy snacks in the shopping (40%), create meal plans, either rough (34%), a few meals (22%) or a specific plan (21%). This is in contrast to those of a normal weight who are significantly more likely to make a shopping list (68%), include healthy snacks in the shopping (57%) and create a rough meal plan for the week (45%).

The Committed segment appears to be the most in control of meal planning, having significantly higher than average occurrences of always or most of the time doing the activity (i.e. including vegetables in meal plans etc.). Deniers on the other hand, seem to struggle the most, with higher than average numbers rarely or never meal planning or preparing. Ambivalent are also less likely to be planners.

Those using a meal service were significantly more likely to be aged 18-34 years, have a household income of \$60-\$100K, and are followers of particular groups, people or pages on social media. They are also more likely to have a way of eating, and positive self-perceptions of their lifestyle.

Figure 7.1.4: Meal planning behaviours



SOURCE: B9: How often do you do each of the following...?

BASE: All respondents (n=3150)

NOTES: *Asked of those who have responsibility for planning (n=2634) **Asked of those who have responsibility for planning or shopping (n=2838) *** Asked of those who have responsibility shopping (n=2761)

The far-reaching influence of family: Families clearly play a significant role in setting behavioural norms, and both motivating and enabling engagement in healthy behaviours in many ways. For almost all in the study, lifestyle habits had been largely formed during **childhood**, with participants often reflecting and carrying forward learned behaviours from previous generations. The qualitative research also highlighted the significance of **cohabiting partners/spouses** in influencing and reinforcing each other's lifestyle behaviours in both positive and negative ways. In some families the dietary choices of children tended to direct the eating habits of the family – which, when **children** were fussy, was generally quite limited nutritionally - around two in five parents in the survey (41%) claim to have children who are fussy eaters that make it difficult to have healthy eating habits. In other families, parents' focus was squarely on the child, with their own health almost disregarded (59% of parents in the survey agreed that it is more important for their children to eat healthy than themselves). The qualitative research suggested that these challenges were particularly heightened for **new mothers** who struggled with the relentless demands of early parenthood – particularly, the sleeplessness and social isolation that comes with caring for a new baby.

'I have to look after my family – so their health comes first, my health comes last.'
(Mother, 25-39 years, Sydney)

'I tend to cook and eat what Mum used to feed us...meat and three veg for dinners.'
(Mother, 25-39 years, Wagga Wagga)

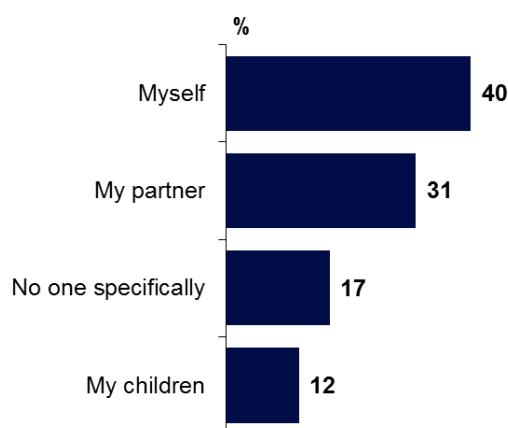
'Sleep is a good one! It can be very difficult when you have young children and it affects every other aspect of your life. Only now that my youngest regularly sleeps through the night do I feel that I have control over my life to make healthier choices.' (Mother, 25-39 years, Regional Australia)

'My eating habits have changed since I had her, I eat a lot of her food. I use to cook and like cooking, cook up soups and curries and everything but I just don't have time and there's no point cooking for one now.' (Mother, 25-39 years, Perth)

When asked who in the family has the most influence on what is eaten at meal times, 40% of parents in the survey claim that it is themselves, with another 31% catering primarily for their partner, 12% for their children, and 17% for no one specifically.

On the whole, females are more likely to say they have the most influence on what is eaten (50%), while males are more likely to say their partner has the most influence (50%). Older parents (aged 50 to 64 years) are more likely to be influenced by their partner (49%). There was little difference among the segments on the level of influence that others had on their dietary choice.

Figure 7.1.5: Biggest influence on food eaten



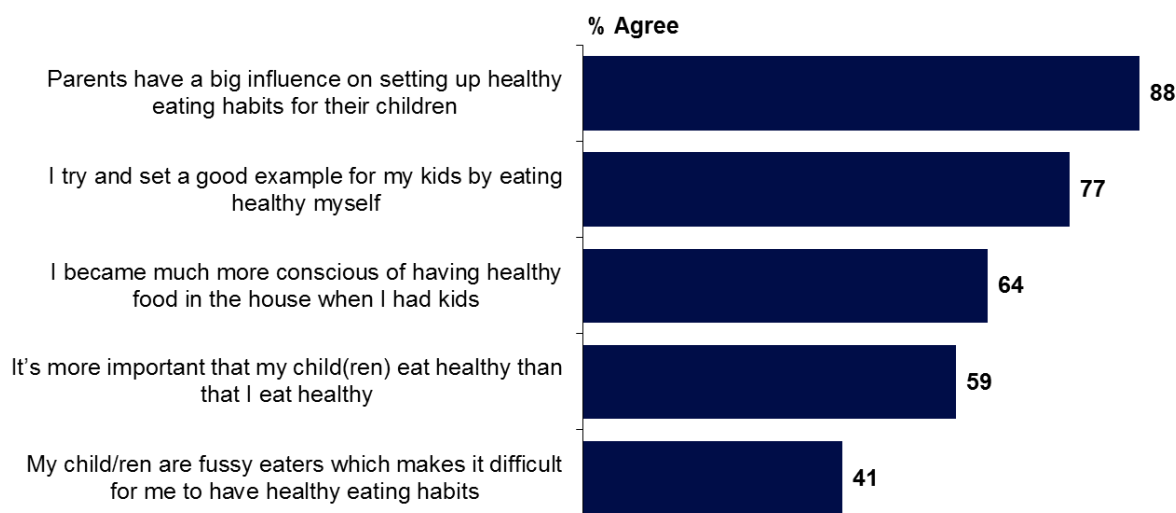
SOURCE: B12: Who in your family has the most influence on what you eat at meal times?
BASE: All parents (n=1940)

Parents were conscious of the **influence** they have on setting up healthy eating habits (88% of parents in the survey agreed that this was the case), as well as the effects of **role modelling** on their children (77% try and set a good example for their children by eating healthy themselves). The qualitative research reinforced that for many, this provided strong motivation to model positive values and behaviours supporting a healthy lifestyle and necessary for social and emotional well-being: inculcating healthy behaviours across the family. Most were aware that 'telling' was far less powerful than 'doing', and felt it was their duty to be setting a positive example.

'Good eating and lifestyle habits are learned from a young age. I don't want to teach my children bad behaviour, unhealthy behaviour.' (Mother, 25-39 years, Perth)

Despite positive intentions, however, many of the parents in the study struggled to do this consistently, evidenced by over half of all parents in the survey (55%) eating the evening meal at a different time to the children at least once a week, and 54% cooking a different meal for the children at least once per week. This was most likely among the Denial segment.

Figure 7.1.6: Parental role in healthy eating



SOURCE: C1: To what extent do you agree or disagree with the following statements about healthy eating?
 BASE: All parents (n=1940)

7.2 A sense of ‘control’ and resilience helps to overcome external challenges

While participants across the study were facing many of the external barriers described above, there were differences in their capacity to **think ‘around’** these challenges. The qualitative research suggests that this was largely reflective of the **level of control** that participants felt over their lives – whether they felt capable of directing their lifestyle for instance, or whether they were of the belief that their lifestyle was essentially externally driven.

Those with a strong **internal locus of control** (being those who are internally driven, proactive, and disciplined) tended to show greater inclination to leverage opportunities and overcome barriers – they were typically proactive, organised and disciplined. They were better at planning, working out weekly meals, using recipes, and shopping with lists. Healthy behaviours were seen as essential in and of themselves rather than as a means to attain weight loss or other benefits.

‘There are a lot of times where one of us has asked the question ‘Can you be bothered? Should we cook?’ and it is so easy to say no. But if we just say ‘yes, let’s do it.’ We are always are really thankful that we did... I feel like we’ve made the right choice for our health.’ (Male, 25-39 years, Perth)

‘Forming good habits takes discipline and motivation but is extremely worthwhile as it makes it easier to make good choices day by day.’ (Mother, 25-39 years, NSW)

By contrast, those with an **external locus of control** (being those who are externally driven) were more fatalistic in their attitudes, and operated in a more reactive, ad hoc way, sometimes disorganised and lacking discipline. This was evidenced by lack of meal planning, spontaneous food purchases, and picking up take-way food due to lack of prior planning. Many of these participants tended to be apathetic about their health, distracted, unengaged and unconcerned.

‘There was nothing easy in the fridge so I ate a cuppa soup and cheese on toast. Other times I might have ordered home delivery.’ (Female, 25-39 years, Sydney)

The study pointed to some association between participants’ **body size** and their sense of control over their lifestyle: for some of the more obese participants, challenging the status quo was considered to be almost impossible, and they felt overwhelmed and defeated at the prospect of trying to do so.

7.3 Motivation underpins resolve to ‘try’

Layered on top of both the external challenges to leading a healthy lifestyle, and the sense of control that people have over their lives, is individual motivation - the beliefs that make us want to try to be healthy – to recognise the benefit, to feel capable, to envisage the result, to see it as worthwhile. As detailed in the sections that follow, these varied across the specific behaviours examined through the research. Nonetheless, as for the external influences on lifestyle, there was also commonality in the factors driving motivation around lifestyle in a more general sense. The qualitative research demonstrates that this included:

- **Desire to ‘feel good’:** At a fundamental level, many of the participants were motivated out of a desire to feel good – both physically and mentally. Reflective of the conceptualisation of a healthy lifestyle as described in Section 4, being healthy was thought to bring about a sense of wellbeing: lifting mood, providing energy, boosting confidence, enhancing self-esteem, with impacts permeating all aspects of life and strong social, functional and emotional, and health benefits.
- **Desire to ‘look good’:** Allied with this, was the association between a healthy lifestyle and personal attractiveness. Attractiveness was often a fairly subjective concept, and, as explained further in Section 9, while not always aligned with weight, was generally linked with good health. The study highlighted considerable pressure, particularly for young people, to conform to a socially desirable body type: generally slim for females and muscular for males. Those in relationships also expressed a desire to remain attractive to their partner.
- **Preventing chronic illness:** For many of the middle aged participants in the study, living healthily was motivated out of a desire to remain well, avoiding the chronic diseases associated with being ‘unhealthy’ (notably type 2 diabetes, heart disease and cancer). Investment in a healthy lifestyle was viewed as insurance for old age, not only by living longer, but also by staying independent and enjoying life. This perception was particularly evident amongst those who were caring for ageing parents, witnessing and in some cases co-experiencing health challenges. This appeared to prompt greater awareness of personal mortality, and concern about maintaining good health, particularly for those with children. While the impacts of lifestyle on physical health were also recognised by younger participants, chronic disease was largely associated with old-age, and therefore lacked salience for this cohort.

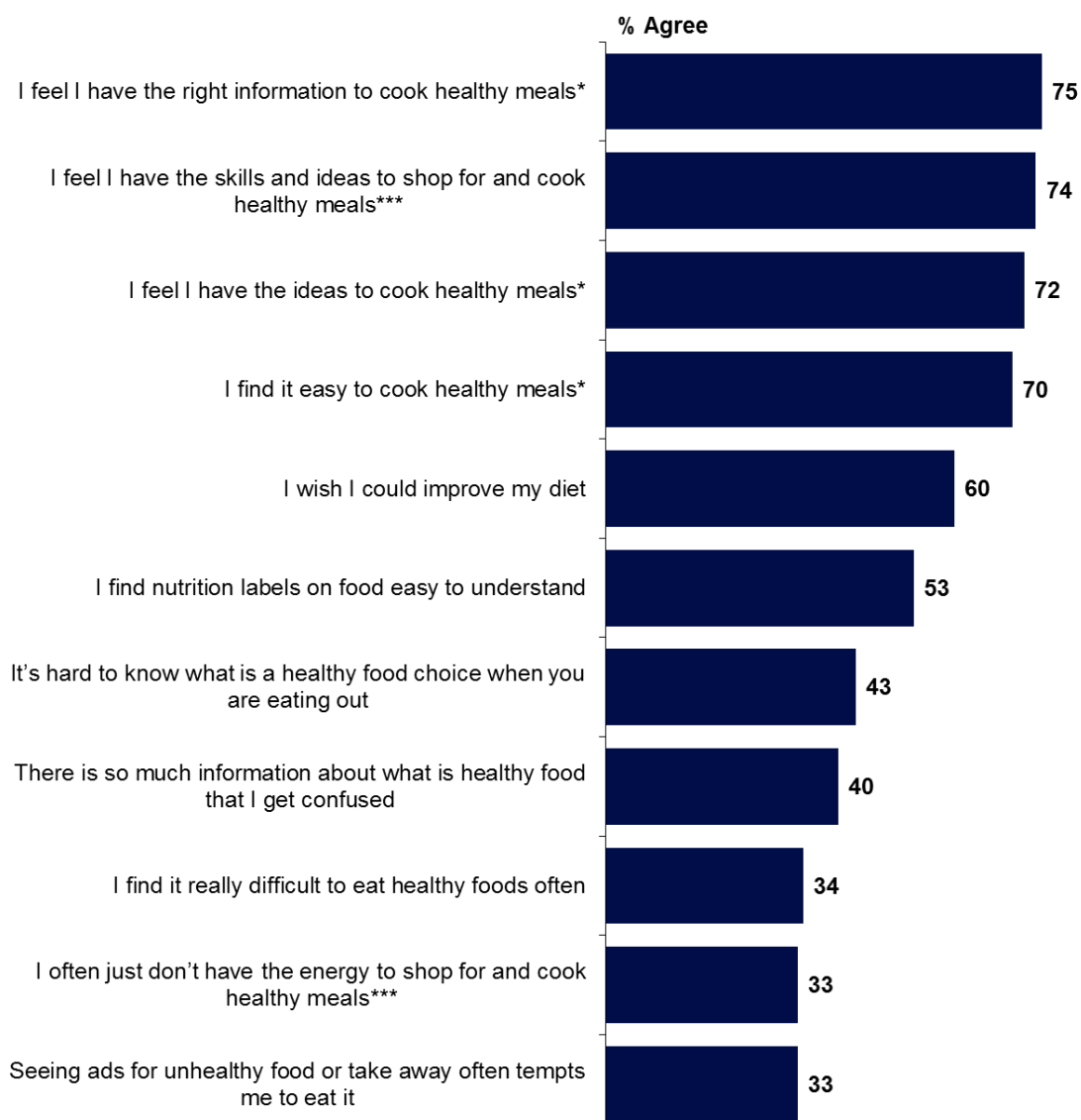
‘Diabetes is huge now, and sugar and wine and stuff is a major factor. I don’t curb any of my eating or any of my diet to worry about diabetes or anything like that.’ (Female, 25-39 years, Perth)

- **Social approval:** A healthy lifestyle is clearly socially aspirational – endorsed and promoted through the media, and, often, amongst peers. Peer pressure around both diet and physical activity (particularly for males) was evident across the study. In social situations, for instance, there was a sense of pressure to articulate and insist on dietary discipline. Conversely, those who were very unhealthy reflected a sense of shame about their lifestyle, in some cases, consciously hiding unhealthy habits from friends and family.
- **Commitment and reinforcement:** The study also drew attention to the reinforcing effect of healthy and unhealthy behaviours – when a behaviour was recognised as healthy, and **successfully** adopted, it tended to inspire a commitment to future healthy choices. Conversely, unhealthy choices tended to prompt future unhealthy choices, reflecting an ‘all or nothing’ attitude.

7.4 The role of self-efficacy

While self-efficacy appears to be relatively high in relation to the belief that they have the right information, skills and ideas and that they find it easy to shop for and cook healthy meals (between 70% and 75% of all survey respondents agree with these statements), there are definite cohorts in the population that have significantly lower self-efficacy. In particular, obese respondents have significantly lower agreement rates, as do those on lower household incomes, Ambivalent and Deniers. Younger survey respondents and Aboriginal and Torres Strait Islander survey respondents are somewhat overwhelmed by the glut of information about healthy food that makes it more difficult than others in the population for them to eat healthy food.

Figure 7.4.1: Self-efficacy surrounding diet



SOURCE: C1: To what extent do you agree or disagree with the following statements about healthy eating?

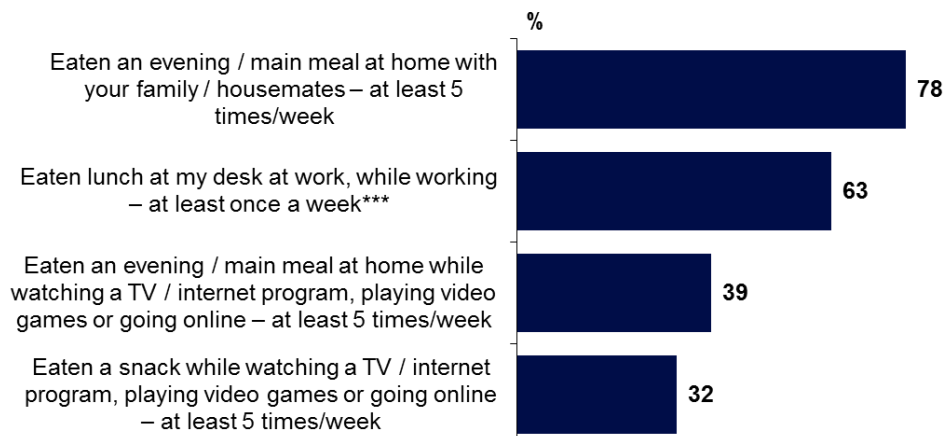
BASE: All respondents (n=3150)

NOTES: *Asked of those who have responsibility for cooking (n=2570); ** Asked of those who have responsibility for shopping (n=2761); ***Asked of those who have responsibility cooking or shopping (n=2847)

7.5 Mindful eating

Over three quarters of survey respondents (78%) eat an evening meal at home with their family or housemates at least five times per week, with respondents aged 18 to 24 years significantly least likely to engage in this (65%) as well as the Denial segment (67%). Mindless eating by way of eating a meal or snack in front of a screen is engaged in by around one third of respondents at least five times per week (39% for meals and 32% for snacks). There is a clear link with obesity and this type of mindless eating, with obese respondents significantly more likely to engage in them (43% meals and 36% snacks).

Figure 7.5.1: Incidence of eating behaviours



SOURCE: B5: How many days in the last seven days have you done each of the following?]

B7: How often do you buy lunch rather than pack it and take it from home when going to work/study?

BASE: All respondents (n=3150)

NOTES: *Asked of those working/studying (n=2412); ** Asked of parents (n=1940); ***Asked of those working (n=2257)

These key influences were observed through the research, impacting the attitudes and behaviours of participants across the study, and shaping their choices, habits and behaviours in many ways. Nonetheless, the research also revealed important differences in the way that participants approached specific health behaviours, reflecting a range of other factors. These targeted behaviours are described in Section 8.

8. Targeted behaviours

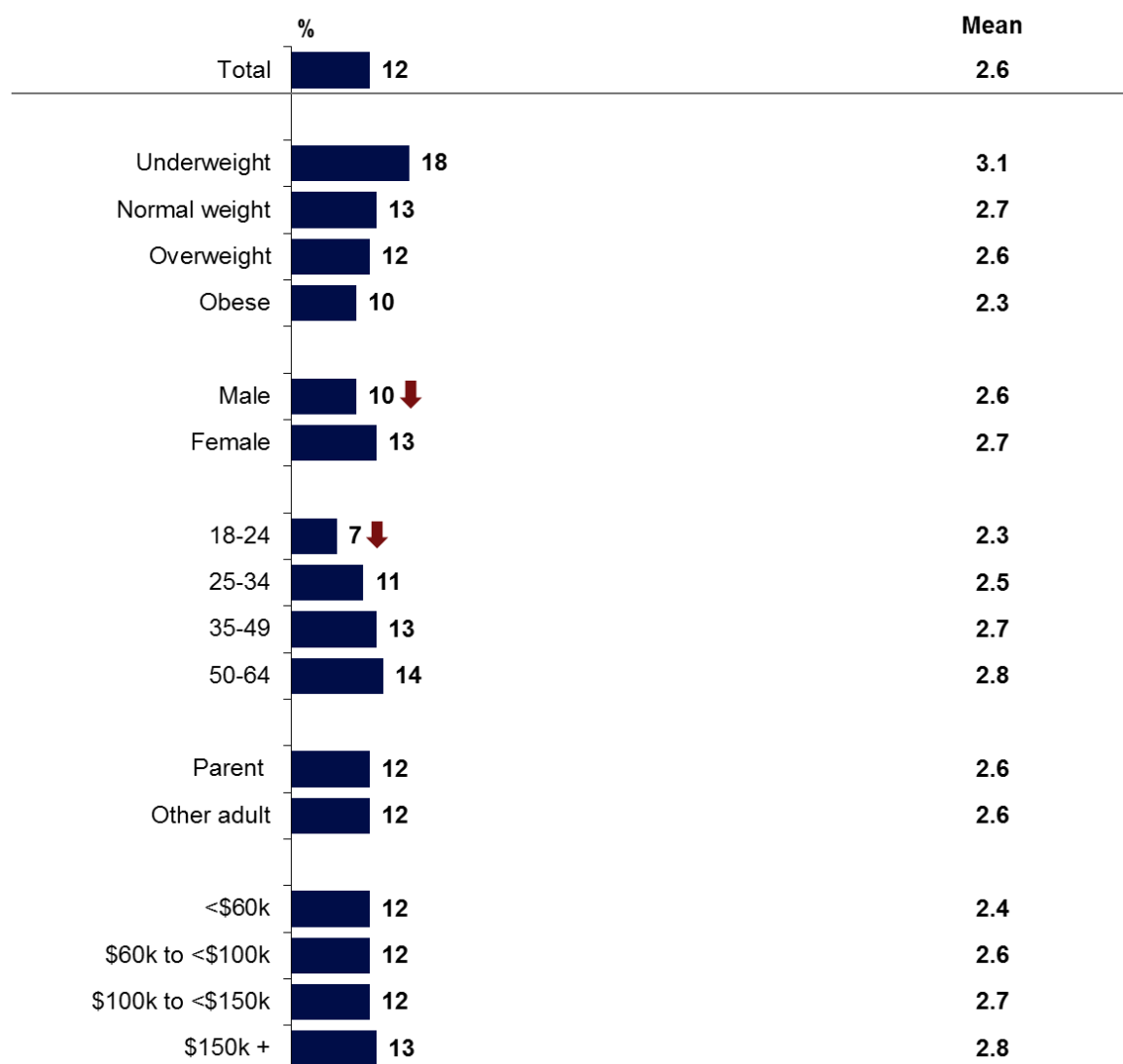
8.1 Eating vegetables

There was widespread recognition and acceptance of the importance of eating vegetables. Nonetheless, the study revealed a general dislike of the taste of vegetables amongst many, a sense that they are boring to eat, offering little in the way sensory or emotional gratification. The time required preparing vegetables, limited understanding of how to incorporate them into meals, and concern around wastage and cost were also off-putting. Overall, while the benefits of eating vegetables for good health were undisputed, it was seen by many, as an inconvenient – if necessary – chore.

Level of consumption

Despite strong recognition of the health benefits of eating vegetables, the research demonstrates a chronic deficiency of vegetables in the diets of the majority of Australians, with only 12% of adults consuming the recommended five serves of vegetables daily (an average of 2.6 serves is consumed). Even the most committed segment, Committed, only had a quarter (26%) consuming the recommended number of serves. Deniers, males, and those aged between 18 and 24 years are significantly less likely to consume the recommended five serves.

Figure 8.1.1: Vegetable consumption of recommended serves



SOURCE: B2: Now thinking about vegetables, including fresh, dried, frozen, or tinned vegetables, and thinking just about yesterday can you tell me how many serves of vegetables you ate?

BASE: All respondents (n=3150)

NOTE: The red arrows indicate a significant difference at the 95% confidence interval against the total survey population.

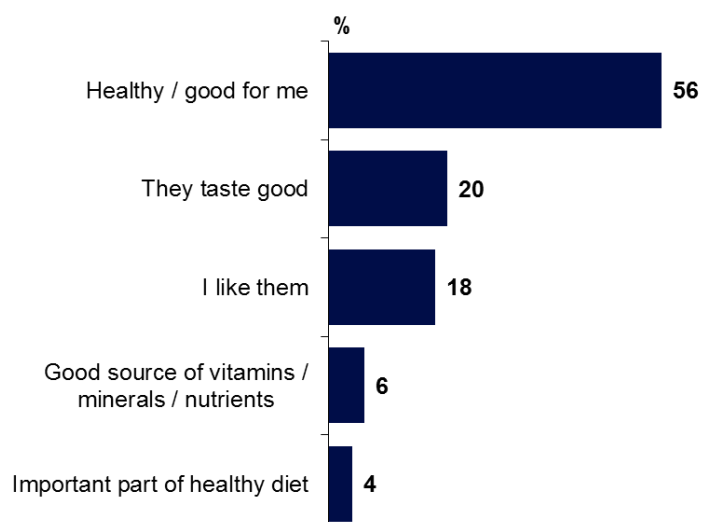
Perceived daily requirements

The qualitative research highlighted that perceptions of how many serves of vegetables should be consumed varied, though there was quite a high degree of recall of the 5 and 2 message (5 serves of vegetables, 2 serves of fruit per day) – other estimations ranged from around 4 to 6 servings of vegetables per day. However, as for food serving sizes generally, understanding of the quantity of vegetables in a serving size was generally poor.

Drivers and barriers

The qualitative research also highlighted that more than any other food group, vegetables were associated with essential nutrients: vitamins, minerals and fibre, offering health benefits both in both the short and long term. This was the primary driver of vegetable intake, with over half of survey respondents (56%) citing health benefits as the main reason that they ate vegetables.

Figure 8.1.2: Motivation for eating vegetables



SOURCE: C2: Finish these sentences by typing into the box.

BASE: All respondents (n=3150)

NOTE: Responses <4% not shown

Nonetheless, despite recognising their importance to health, many in the qualitative and quantitative research claimed that they ‘struggled’ to eat vegetables. Their responses revealed a number of key barriers and challenges undermining the appeal of vegetables, as described below:

- Vegetables are unappetising: For around a third of survey respondents (29%), vegetables were considered ‘boring’ (significantly higher among males and younger respondents). Further to this the qualitative research suggested a narrow repertoire based around adding steamed or boiled vegetables to a piece of protein contributed to the perception that vegetables were not interesting to eat. Unlike many other foods, there were very low expectations of any emotional reward resulting from eating vegetables, and, associated with this, little consideration of the diversity and variety of vegetables or more appetising or creative ways of preparing, serving and eating them. Vegetables were also often not popular amongst other family members – particularly children. This could serve as an extra disincentive to buy or serve them.

‘I don’t think it’s worth putting anything in your mouth unless it tastes good. So like kale ‘yuck!’ I mean it might be really good for you but you’re just going to go back to something that you want to eat anyway.’ (Mother, 25-39 years, Perth)

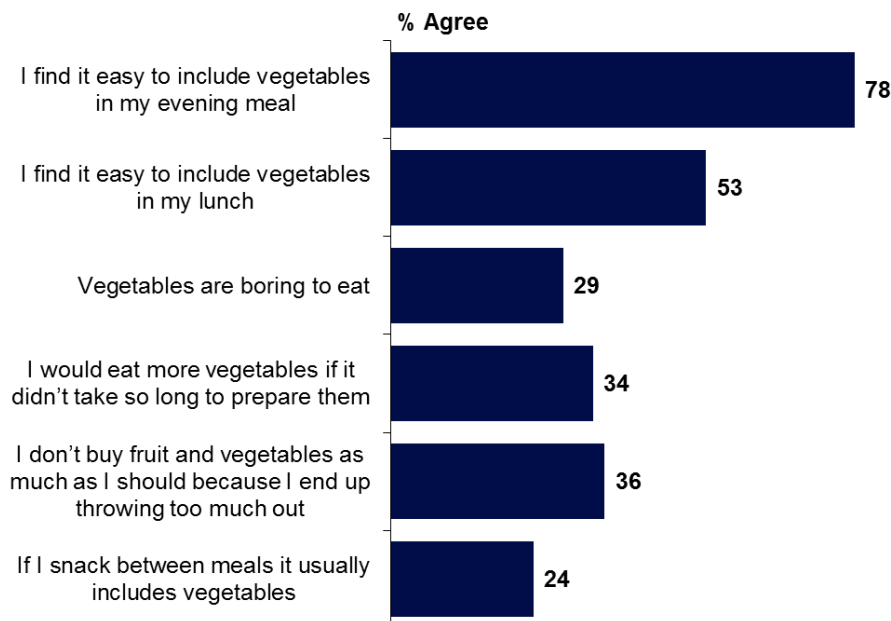
- Preparing vegetables is considered time-consuming and laborious: The preparation time required to chop and cook vegetables was also off-putting, with over a third of respondents (34%) agreeing that “I would eat more vegetables if it didn’t take so long to prepare them” (significantly higher among Struggling, younger respondents, parents and Aboriginal and Torres Strait Islander respondents). The qualitative research suggested that this was a particular barrier for those who were time poor with work and family commitments- for whom convenience was a critical driver of food choice.

‘Mum brought over some cauliflower and green beans and told me how good they were for breast-feeding and she said just boil the beans and have them with salt and pepper and I’m like I know but I still have to chop the ends of the beans and steam them. They’re still sitting in the fridge...’ (Mother, 25-39 years, Sydney)

- Consuming vegetables as a norm, at dinner only: The qualitative research demonstrated that vegetables were commonly consumed habitually at dinner, reflecting and reinforced by a firmly established 'meat and three veg' social norm. However, normative influences appeared to deter the consumption of vegetables at other times – whether for breakfast, lunch or as a snack. This 'mainstream' dietary pattern contrasted with the eating habits of some of the participants from culturally and linguistically diverse backgrounds, for whom vegetables were regularly eaten with every meal, in keeping with cultural traditions.
- Limited knowledge of how to incorporate vegetables: Reflecting this often limited familiarity with eating vegetables outside dinner, the research highlighted a lack of knowledge amongst participants around how to incorporate vegetables into snacks and other meals. Only 24% of survey respondents include vegetables as a snack, and 53% asserted that they found it 'easy' to include vegetables in their lunch (compared with 78% who claimed to find it easy to include vegetables in their evening meal). Obese respondents, Deniers, and Ambivalent in particular were significantly more likely to struggle with including vegetables at any time in their daily diet.
- Concern about wastage: Waste emerged from the qualitative research as another barrier to purchasing vegetables. There was a tendency for non-planners, in particular, to purchase vegetables without any particular meal in mind: as a result, they often remained unused in the bottom of the fridge until they had to be thrown out. Those in lower income households in particular, found it difficult to justify spending money on food that was – as they saw it – inevitably wasted. Following this up in the quantitative research it became clear that some 36% of respondents, for instance, agreed that "I don't buy fruit and vegetables as much as I should because I end up throwing too much out" (significantly higher for Struggling, respondents with lower household incomes, younger respondents and Aboriginal and Torres Strait Islander respondents).
- Limited availability as a take-away food: The qualitative research also highlighted that limited availability of take away food with high vegetable content also presents a challenge to eating vegetables. This was particularly reported in relation to low cost take-away food in regional and rural areas, but was also evident in the food available at work canteens, cafes and clubs – where menus tended to be dominated by discretionary food choices.

'You just don't find fresh veggies in Kalgoorlie. Even the veggies and fruit you do get here don't taste great because they are old.' (Mother, 25-39 years, Kalgoorlie)

Figure 8.1.3: Attitudes to eating vegetables



SOURCE: C1: To what extent do you agree or disagree with the following statements about healthy eating?
 BASE: All respondents (n=3150)

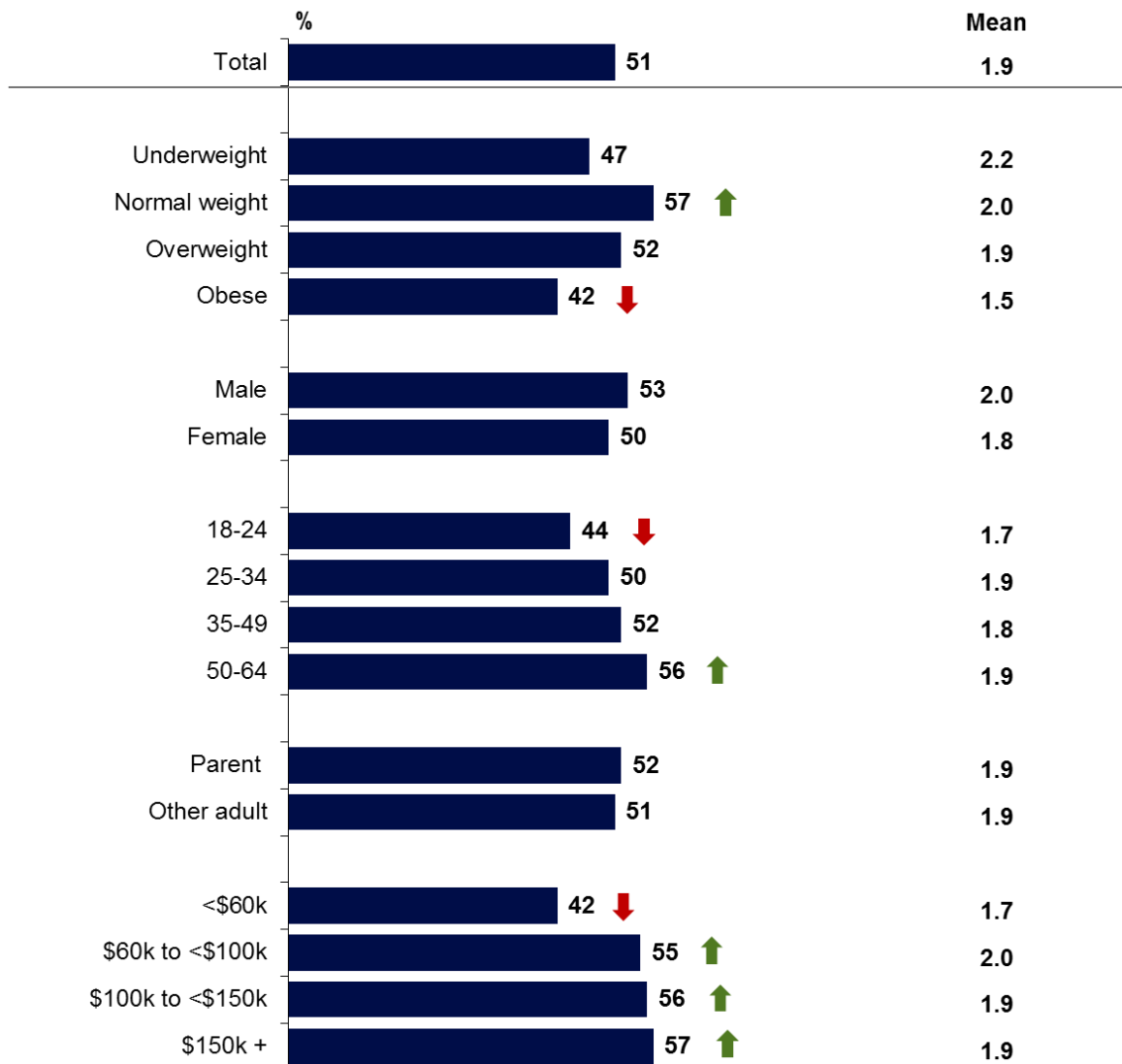
8.2 Eating Fruit

Most in the study saw fruit as more appealing than vegetables from the perspective of both **taste** and **convenience**. Fruit was also considered 'easier' than vegetables – quicker to prepare, easier to use, and generally more available. Social norms around eating fruit were also largely encouraging and validating – fruit is regarded as a 'normal' component of almost any meal and, unlike vegetables, is also an accepted **snack food**. Nonetheless, the research revealed inter-generational differences in the views of the nutritional value of fruit, and how much should be consumed.

Level of consumption

On average, Australian adults are consuming 1.9 serves of fruit per day, coming very close to the current Australian Dietary Guidelines of 2 serves per day. Those of normal weight, Committed, or Engaged are significantly more likely to consume the recommended serves of fruit compared to adults in general, while obese people and Deniers are significantly less likely. Household income is a clear discriminator with respect to fruit consumption, with lower income Australians significantly less likely to consume the recommended number of serves, compared to those with a household income of at least \$60,000pa.

Figure 8.2.1: Fruit consumption of recommended serves



SOURCE: B1: Thinking about eating **fruit**, including fresh, dried, frozen or tinned fruit, and thinking just about **yesterday** can you tell me how many serves of fruit you ate?
 BASE: All respondents (n=3150)
 NOTE: The downward point red and upward pointing green arrows indicate a significant difference at the 95% confidence interval against the total survey population.

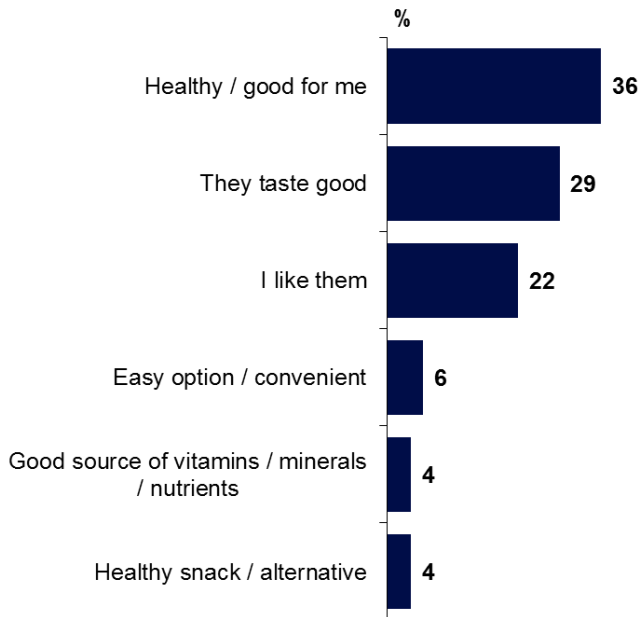
Perceived daily requirements

The qualitative research suggested that the perceived daily requirements of fruit were highly variable, with little consistency across cohorts. Around half of all respondents (49%) believe there is no reason to limit the amount of fruit you eat, with significantly higher agreement among males (55%), CALD respondents (55%), respondents with a household income of \$60-100k (58%), and Aboriginal and Torres Strait Islander respondents (68%).

Drivers and barriers

Compared with vegetables, the appeal of fruit is aligned far more strongly with taste and convenience. Over half the quantitative sample (51%) asserted, for instance, that they ate fruit because it ‘tastes good’ or because they liked it, contrasting with just 38% of respondents who claimed to eat vegetables for these reasons. The health benefits of eating fruit are also recognised, but to a notably lesser degree than for vegetables: around one third (36%) claimed to eat fruit for health related reasons, compared to over half of respondents who claimed to eat vegetables for health reasons.

Figure 8.2.2: Motivation for eating fruit



SOURCE: C2: Finish these sentences by typing into the box.

BASE: All respondents (n=3150)

NOTE: Responses <4% not shown

The qualitative research also pointed to a lack of consensus about the health benefits of fruit, highlighting the impact of the recent media focus on sugar, through films such as ‘That Sugar Film’, and writers/bloggers like Sarah Wilson (author of ‘I quit sugar’). Many of the younger participants in particular recognised that fruit was beneficial from the perspective of vitamin and mineral intake, but were also aware of the potentially adverse impacts of its **sugar content**. These participants therefore tended to see fruit as a ‘sometimes’ food: restricting their intake to one or two serves a day.

By contrast, older participants in the qualitative research placed greater value on fruit as part of a healthy diet, tending not to consider its sugar content. Indeed, for some of these participants, fruit was largely **interchangeable with vegetables** in terms of health benefit – possibly reflecting a grouping of ‘fruit and vegetables’ as an overhang from their earlier years, and/or older versions of the healthy eating guidelines and other sources of nutritional advice. In some cases, fruit was one of the few non-discretionary foods habitually consumed. For this group, the main barriers to eating fruit were:

- Inconsistency in taste;
- Limited availability and cost fluctuations of seasonal fruit;
- Limited **emotional gratification** compared with sugary and salty ‘snack’ foods.

Even so, on the critical dimensions of taste and convenience that often appears to govern snack food choices for this cohort, compared with vegetables, fruit appears to be positioned closer to discretionary foods – seen as generally tastier and quicker – and requiring much less preparation.

There may therefore be an opportunity to raise the salience of fruit as an **alternative ‘snack’ to discretionary foods**, with over one third of respondents (35%), already using fruit as a regular snack. This is significantly more prevalent among respondents with a normal weight (39%), respondents with a CALD background (42%), respondents with a household income of \$60-100k (42%), Aboriginal and Torres Strait Islander respondents (59%) and Committed or Engaged (47% and 49%). There is a risk however, that in increasing intake of fruit, consumption of vegetables would be deprioritised or displaced. Care should therefore be taken considering this option.

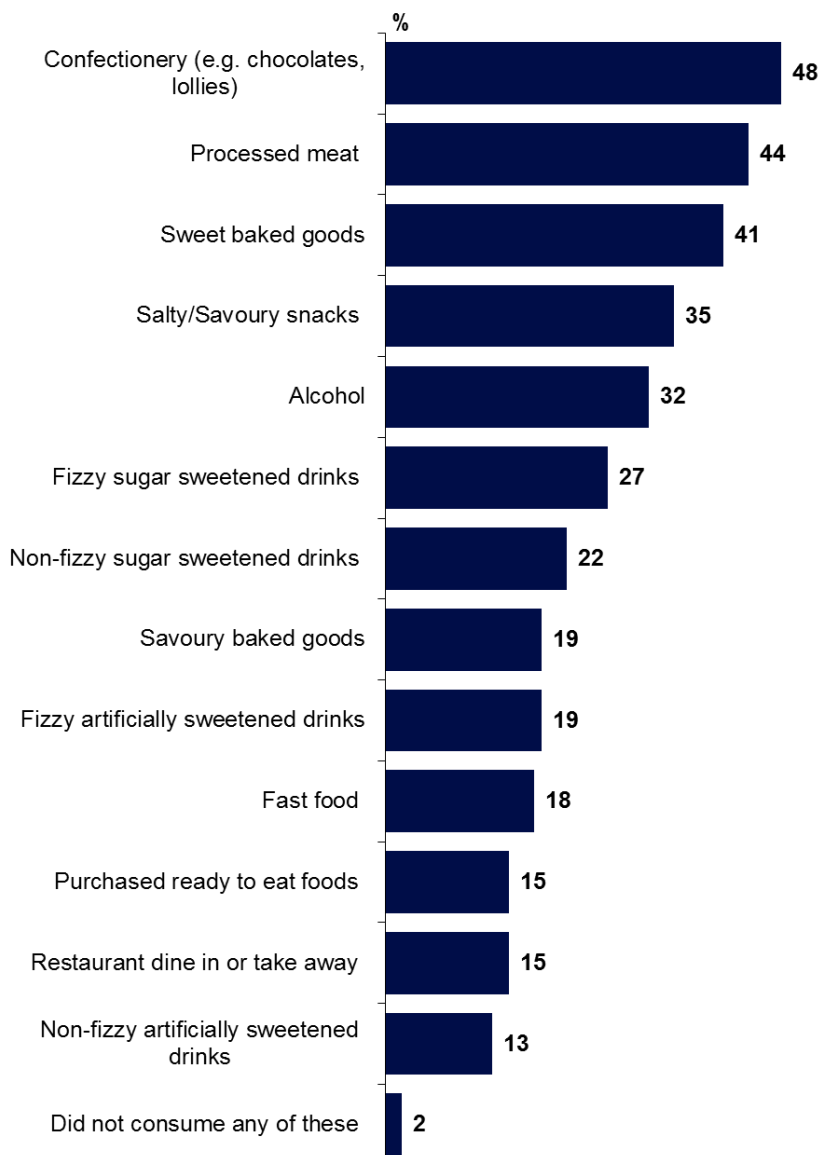
8.3 Limiting discretionary foods

Of all aspects of lifestyle, the consumption of discretionary foods was most strongly underpinned by a range of **unconscious ‘automatic’ factors**: sensory appeal, norms, habits and heuristics, impulses and emotion, often amplified and exploited by the marketing activities of the food industry and supermarket chains. These influences were often far stronger than ‘rational’ assessments that generally reinforced the belief that these foods should be restricted. Even when motivation to do so was strong, many in the study pointed to the ‘ease’ with which they were drawn back to discretionary foods, time and time again.

Level of consumption

The most frequently consumed discretionary foods are confectionary (48%), processed meat (44%) and sweet baked goods (41%). While obese respondents and Deniers are significantly more likely to have consumed processed meats yesterday (50%), they are no different than other weight categories with respect to confectionary and sweet baked goods. Aboriginal and Torres Strait Islander respondents however are significantly more likely to consume all three (67% confectionary, 80% processed meats and 61% sweet baked goods), while CALD respondents are significantly more likely to have consumed sweet baked goods yesterday (46%). The Ambivalent segment (52%), parents (53%), respondents aged 25 to 34 years (59%) and those with a household income of \$60-100k (55%) are all significantly more likely to have consumed confectionary yesterday.

Figure 8.3.1: Non-core foods eaten “yesterday”

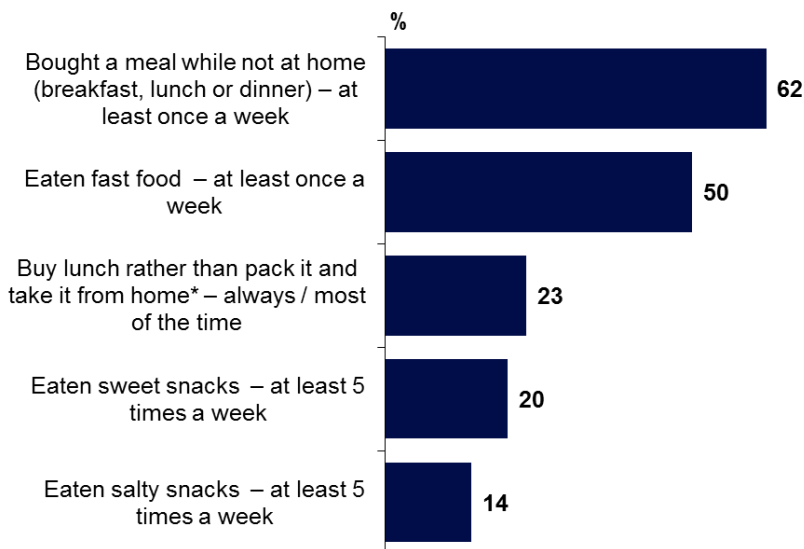


SOURCE: B4: Still thinking about yesterday, which of the foods and drinks listed below did you consume?
 BASE: All respondents (n=3150)

It is very common across all cohorts to buy a meal and eat out of home, with nearly two thirds of respondents (62%) doing so at least once a week. This is significantly higher for Ambivalent (66%), males (65%), those living in cities (67%), those with a household income greater than \$150k (72%), 18 to 34 year olds (73%) and Aboriginal and Torres Strait Islander respondents (85%). Nearly one quarter of respondents who were working or studying (23%) buy lunch rather than pack it and bring it from home always or most of the time, in particular Ambivalent (27%), males (28%), respondents aged 25-34 years (30%) and Aboriginal and Torres Strait Islander respondents (64%). Half the sample had eaten fast food in the past week (50%), with significantly higher incidence among Ambivalent (57%), parents (55%), respondents with a household income of \$60-100k (56%), those from a CALD background (57%), those aged 18 to 34 years (67%), and Aboriginal and Torres Strait Islander respondents (88%).

Sweet snacks were more frequently eaten than salty snacks (20% and 14% of respondents respectively had consumed them at least five times in the last week). This was significantly higher for Ambivalent (82% and 74% respectively), respondents with a household income of \$60-100k (27% and 19% respectively), and Aboriginal and Torres Strait Islander respondents (55% and 50% respectively). Males (16%) and 18 to 24 year olds (24%) were significantly more likely than other respondents to have consumed salty snacks in the past week.

Figure 8.3.2: Consumption of discretionary foods in past week



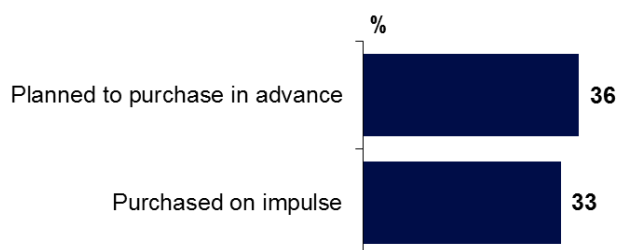
SOURCE: B5: How many days in the last seven days have you done each of the following?

BASE: All respondents (n=3150)

*NOTE: Asked of those working/studying (n=2412)

Over one third of respondents (36%) purchase snack foods at least weekly that they planned to purchase, with significantly higher incidence among Ambivalent and Deniers (40% for both) those who are obese (38%), those with a CALD background (42%), 25 to 34 year olds (44%) and Aboriginal and Torres Strait Islander respondents (67%). Nearly as many respondents purchase snack foods at least weekly on impulse (33%), with significantly higher incidence among Ambivalent (37%), Deniers (36%), obese respondents (37%), parents (38%), respondents with a household income of \$60-100k (39%), 25 to 34 year olds (43%), 18 to 24 year olds (51%) and Aboriginal and Torres Strait Islander respondents (57%).

Figure 8.3.3: Consumption of snack foods in past week



SOURCE: B6: Thinking about when you might purchase sugary or salty snacks to eat straight away (for example chips/crisps, chocolate, muffins, ice-creams, hot chips etc.), how often would you...

BASE: All respondents (n=3150)

Perceived daily requirements

There was consensus evident in the qualitative research that eating discretionary foods should be limited, though views of 'acceptable' quantities varied: ranging from nothing at all, to one or two 'servings' a day: an assessment that was typically made using personal intake as a frame of reference. Those who consumed discretionary foods regularly tended to refer to eating them in 'moderation' – a term that was frequently fairly loosely applied.

'All in the proportion. It's nothing for me to drive home from work and snack on a bag of chips while I'm sitting in traffic. I think anything in moderation is ok.' (Mother, 25-39 years, Sydney)

The qualitative research also suggests that people are often more disciplined about their health during the week, while the weekend triggers a 'break' characterised by high discretionary food intake. Whether a social event or simply 'downtime', the weekend brings with it a sense of freedom to indulge. Alcohol often plays a significant role, with some 43% of surveyed respondents agreeing, for instance, that "I often eat fatty or salty foods if I've been drinking alcohol", significantly higher among Struggling (48%), 25 to 34 year olds (53%), parents (46%) and Aboriginal and Torres Strait Islander respondents (68%).

'This past weekend I went out for every meal.' (Female, 25-39 years, Perth)

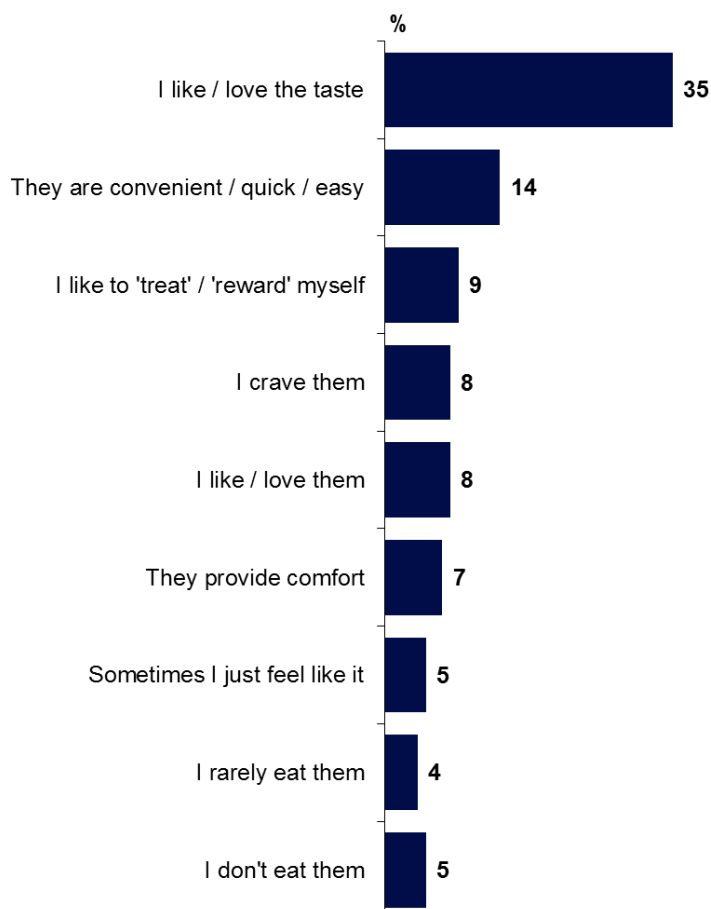
'I have a pattern – healthy Monday to Friday. Weekend hits and boom I'm bad!' (Mother, 40-50 years, NSW)

Despite the higher discipline during the week, discretionary foods feature prominently in the week-day diets of more consumers. It is clear from the qualitative research that sugary, fatty and salty foods are eaten both at lunch-time and dinner, as well as more 'mindlessly' as snacks throughout the day.

Drivers and barriers

The intrinsic 'unhealthiness' of discretionary foods was well recognised by participants in the qualitative research. Fatty, sugary and salty foods were commonly associated with general poor health, weight gain and, particularly amongst the older participants, chronic disease, including Type 2 diabetes and heart disease. Nonetheless, often respondents failed to recognise foods that would fall into the discretionary food category and despite their better judgement, many participants found it difficult to resist discretionary food items as well. When asked why they eat sugary and salty snacks over one third (35%) claim it is for the taste, while many claim it is as a reward or comfort.

Figure 8.3.4: Motivation for eating sugary and salty snacks



SOURCE: C2: Finish these sentences by typing into the box.

BASE: All respondents (n=3150)

NOTE: Responses <4% not shown

Specific barriers to restricting intake observed through the research were as follows:

- Poor recognition of discretionary foods:** It was clear from the qualitative research that there were misconceptions around the **range** of foods in the discretionary food category, and a tendency for participants to identify the relatively healthiest option within the category as a healthy choice. This was evident in relation to foods containing some ingredients that could be considered healthy, despite the product as a whole being high in sugar, fat and/or salt – for example, muesli and nut bars, pizza, pies, pastries, spring rolls and samosas. Similarly, discretionary foods that were home-made or organic were not always considered unhealthy either.

'Fish and chips as take away foods don't count as unhealthy food. Fish is healthy and chips are potatoes which are veggies so it is still good for you.' (Male, 18-24 years, Bunbury)

'If it's a giant size muffin you have just the one. If it's a bag of chips, you have just the one. The nut bars are still healthy. They've got honey and nuts. I can eat three nut bars in one go. I love them. I live on them.' (Mother, 25-39 years, Sydney)

- **Taste and cravings:** Both the qualitative and quantitative research highlighted that the taste and texture of discretionary foods was a primary driver of discretionary food intake for many. The appeal of a consistently reliable sugary or salty ‘hit’ was a focus of discussion in the qualitative research, while some 45% of surveyed respondents agreed that “I often choose unhealthy food because I love the taste of it and just can’t resist”, including 57% of the obese respondent cohort, 50% of Struggling and 49% of Ambivalent. Other groups with significantly higher incidence are respondents aged 18 to 34 years (57%), parents (49%), respondents on a household income of \$60-100k (50%) and Aboriginal and Torres Strait Islander respondents (71%). Indeed, some of the more frequent consumers of discretionary food described ‘cravings’ for discretionary food bordering on ‘addiction’. This was most commonly mentioned in reference to foods with high sugar content.

‘You’re always conscious of what you should eat, but what tastes good is different, and you go for what tastes good.’ (Mother, 25-39 years, Perth)

‘Because of the lack of sleep your body is craving sugar and carbohydrates for energy. And it’s easy. And it’s comfort food.’ (Mother, 25-39 years, Sydney)

‘It’s pretty easy for me to go to the skate park and buy a bag of chips and a beer. I know it’s not good for me but I just want it.’ (Male, 18-24 years, Sydney)

- **Comfort, treats and emotional gratification:** Bingeing on discretionary foods was often observed in the qualitative research as a highly compensatory behaviour, associated with a sense of emotional gratification and comfort. This was strongly valued by participants at times of emotional vulnerability, when feeling tired or lacking energy, sad or angry, anxious or stressed. Nearly half of surveyed respondents (47%), for instance, agreed that: “If I’m feeling depressed or anxious I treat myself with food that’s not that healthy”, significantly higher among Struggling (54%), those who are obese (55%), parents (51%), respondents aged 18 to 34 years (57%), female (52%), those on a household income of \$60-100k (50%) and Aboriginal and Torres Strait Islander (69%). Discretionary foods were also commonly eaten habitually as a ‘treat’ or ‘reward’, triggered by a specific event – for instance, a milkshake after completing a gym session or a chocolate after a ‘hard day’ at work. This reinforces a positive emotional association with discretionary foods.

‘My moto for getting through the day was that if I can’t have sleep I will at least have chocolate.’ (Mother, 25-39 years, Regional Australia)

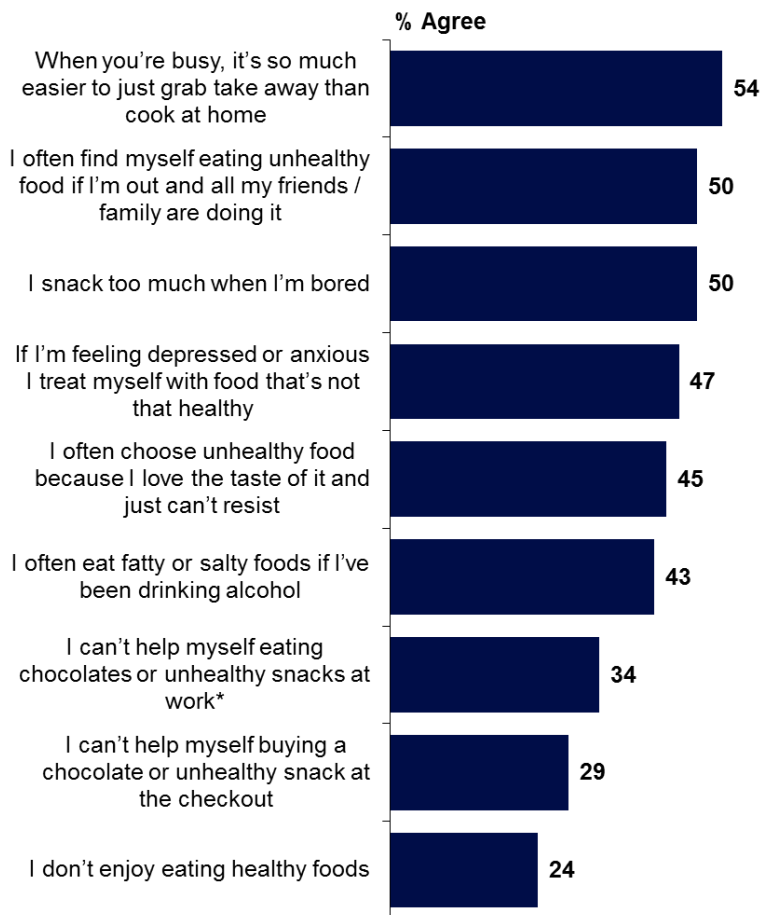
‘I’m tired and I need to get through the morning and I haven’t had any sleep so I’m going to have a digestive biscuit with my coffee, or maybe two.’ (Mother, 25-39 years, Sydney)

- **‘Mindless’ eating:** It was clear from the qualitative research that discretionary foods were also often eaten in a ‘mindless’ or automatic fashion: habitually and with a lack of self-awareness; prompted by a range of situational cues – often not noticed or discounted. This was most evident in relation to ‘snacking’ while engaging in another activity – for example watching television or socialising with friends, driving to work, but was also observed when participants were bored or procrastinating. Half of all surveyed respondents (50%), for instance, agreed that “I snack too much when I’m bored” with 61% of obese respondents agreeing with this statement. Other groups significantly more likely to agree with this are Struggling (56%), respondents aged 18 to 34 years (60%), those on a household income of \$60-100k (55%) and Aboriginal and Torres Strait Islander respondents (75%).

- Norms:** The qualitative research also draws attention to powerful normative influences that serve to encourage discretionary food intake. Reinforced by peer behaviour, social ‘proof’, and the media more broadly, norms position discretionary foods as the default choice both at various ‘moments’ throughout the day (biscuits with a morning coffee, a block of chocolate while watching TV), and when engaged in specific activities and events (soft-drinks and pop-corn at the movies, chips and beer at the pub, ‘drive thru’ on long distance car trips, birthday cakes at parties). Normative behaviours when socialising were sometimes so entrenched that participants spoke of feeling ‘guilty’ or rude if they did not join in. This was again evidenced in the quantitative research, with half of all surveyed respondents (50%) agreeing that “I often find myself eating unhealthy food if I’m out and all my friends/family are doing it”, significantly higher for Struggling (58%), respondents aged 18 to 34 years (62%), parents (53%), CALD (56%) and Aboriginal and Torres Strait Islander respondents (72%)
- Habitual behaviours:** Often strongly linked to and reinforced by social norms, the qualitative research pointed to the formation of habits around the consumption of discretionary foods, again strongly attached to specific moments and situations: for instance, always having a bacon and egg roll for breakfast, always buying a chocolate on the way home from work, always having a pizza for dinner on Friday nights.
- Availability:** The ready supply of discretionary food means that it is almost always available, and therefore, almost always a temptation. Some participants in the qualitative research alluded to a sense of powerlessness to resist, particularly when it was so easy, so tasty and so affordable. Nearly a third of the surveyed respondents agreed, for instance, that “I can’t help myself buying a chocolate or unhealthy snack at the checkout” (29%), and/or “I can’t help myself eating chocolates or unhealthy snacks at work” (34%), significantly higher among Ambivalent, younger respondents, those on lower incomes and Aboriginal and Torres Strait Islander respondents. The influence of supply was particularly evident in the outer suburbs and regional areas, where discretionary foods were often the only take-away option.

‘It’s just easier to get take away. Uber Eats are open all hours of the day. You can get take away any time.’ (Female, 18-24 years, Sydney)
- Convenience:** Allied with their ready availability, the qualitative research showed that convenience of discretionary foods also accounts for a large part of their appeal. They can be consumed quickly and easily – generally with very little, if any, need for preparation. This was a strong drawcard for time poor participants in the study. More than half of surveyed respondents (54%) agreed, for instance that “When you’re busy, it’s so much easier to just grab take away than cook at home.”
- Low cost:** Many discretionary food products were viewed by qualitative participants to be comparatively inexpensive, and were associated with little or no waste. This made them seem good value for money compared with other types of food – notably fruit and vegetables.

Figure 8.3.5: Attitudes towards discretionary foods



SOURCE: C1: To what extent do you agree or disagree with the following statements about healthy eating?

BASE: All respondents (n=3150)

NOTE: *Asked of those employed (n=2257)

Overall, the qualitative research highlights the formidable influence of **marketing activity** by both food brands and supermarkets in leading consumers to discretionary foods. The familiarity and consistency of well-known brands adds considerably to their appeal, while clever communications campaigns, shopper and pricing strategies, and constantly re-invigorated products ensure that the category remains ever enticing.

Despite the motivation that many qualitative participants felt in trying to limit or moderate their consumption of discretionary foods, it was considered a very challenging undertaking. The sense of deprivation, loss of positive emotion and enjoyment were difficult to tolerate, while the pervasive prompts and cues that serve as constant reminders of the appeal and availability of discretionary food products were difficult to ignore. As a result, even when the health benefits were well recognised and planning strategies put in place, attempts to cut down were often only successful for limited periods. Often a disruption to routine or a negative or stressful occurrence would result in a return to 'bad habits'.

8.4 Physical activity¹

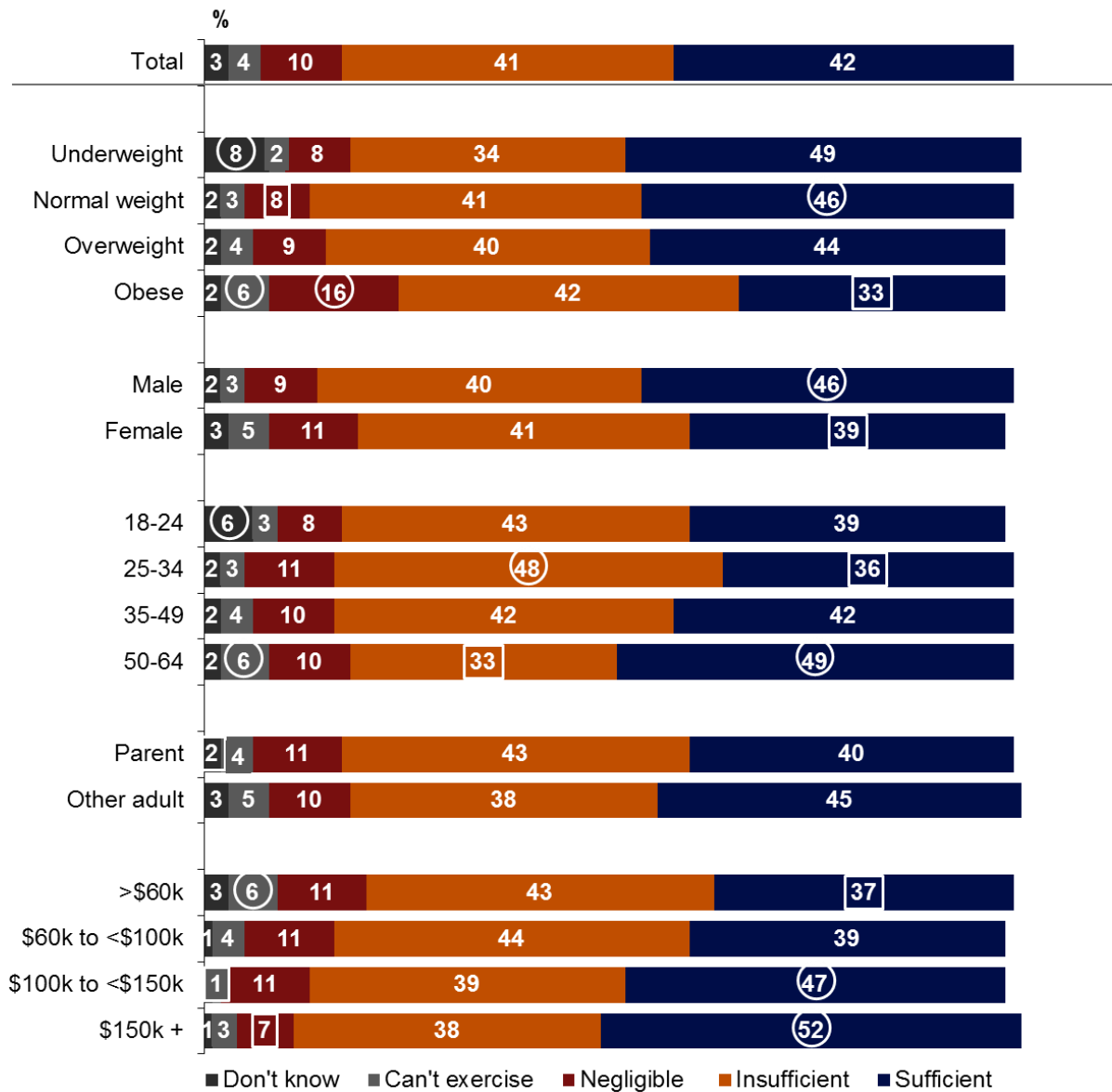
Physical activity was associated with a range of important health benefits strongly aligned with the concept of wellbeing. **Routine and planning** emerged in the research as primary enablers of participation. However, motivation to engage in physical activity varied, with many put off by the prospect of physical pain and exertion, and feeling self-conscious about their appearance or aptitude. The research drew attention to the myriad excuses put forward to rationalise non-participation and a belief that any negative repercussions would only be experienced personally. This, together with the opportunity cost of participation, the practical challenges, and environmental barriers made participation an 'opt in' decision for many and the formation of routines considerably difficult.

Level of engagement

Around two in five (42%) respondents are undertaking sufficient amounts of physical activity (150 minutes or more) across a week, with a further 41% undertaking insufficient amounts (30 to 149 minutes), 10% undertaking negligible amounts (less than 30 minutes), 4% claiming they cannot exercise, and a further 3% unsure. Groups who are significantly more likely to be undertaking sufficient amounts of physical activity are Committed (58%), Engaged (56%), males (46%), those aged 50 to 64 years (49%) and respondents with higher household incomes (47% of those with household incomes of \$100-150k, and 52% of those with household incomes of \$150k or more).

¹ Terminology throughout this section of the report interchanges between physical activity and exercise. Language used in the questionnaire was deemed to be appropriate to Australians and may not be in line with definitions according to the Australia's Physical Activity and Sedentary Behaviour Guidelines.

Figure 8.4.1: Physical activity levels



SOURCE: D1: Thinking about the last seven days, on how many days did you do a total of 30 minutes or more of physical activity, which was enough to raise your breathing rate? D2. What do you estimate was the total time that you spent over the last seven days being active in a way that increased your breathing rate?

BASE: All respondents (n=3150)

NOTE: The white circles and white squares indicate a significant difference at the 95% confidence interval against the total survey population. Circles indicate a significantly higher score, whereas squares indicate a significantly lower score.

Perceived requirements

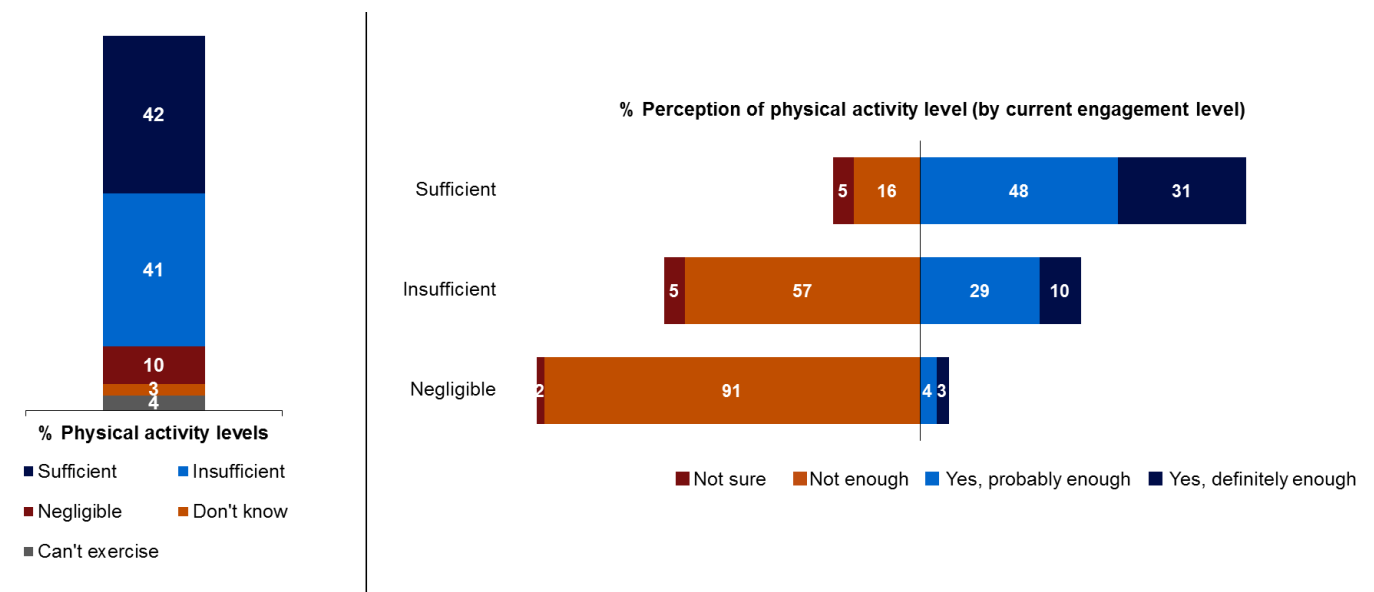
The qualitative research revealed mixed views of quantitative requirements for physical activity. There was recall of messages from various campaigns – including thirty minutes per day and twenty minutes three times per week. As for the other behaviours, however, for many, the ‘right’ amount was something approximating whatever they were either currently doing or could imagine doing within the constraints of their lives and fitness levels. This permeated their perceptions of both duration and frequency as well as activity type – for instance, some of the less healthy participants asserted that, for them, twenty minutes spent walking around the park twice a week was sufficient, while others pointed to various forms of incidental activity, like vacuuming or mowing the lawn, or non-aerobic exercise like yoga or Pilates as indicative of an ‘active’ lifestyle.

‘We do all the domestic activities – the vacuuming, this also is physical activity. Standing there cooking – walking, that’s more than enough for me.’ (Mother, 40-50 years, Sydney)

‘You might get into a fitness class – whether it’s kind of fun like pole dancing or kind of fun like hula hooping. You meet new people. It’s like a social activity but you don’t have to be that fit.’ (Female, 18-24 years, Sydney)

This confusion was confirmed in the online survey, with only 31% of those respondents undertaking sufficient physical activity confident that it is a healthy amount, while about half (48%) thought this was “probably” the case rather than having the confidence to claim it was. This is further demonstrated by the two in five (38%) respondents who are currently engaging in insufficient amount of physical activity of the view that it was either definitely or probably enough to be healthy.

Figure 8.4.2: Perception of health of individual physical activity levels



SOURCE: D1: Thinking about the last seven days, on how many days did you do a total of 30 minutes or more of physical activity, which was enough to raise your breathing rate? D2: What do you estimate was the total time that you spent over the last seven days being active in a way that increased your breathing rate?

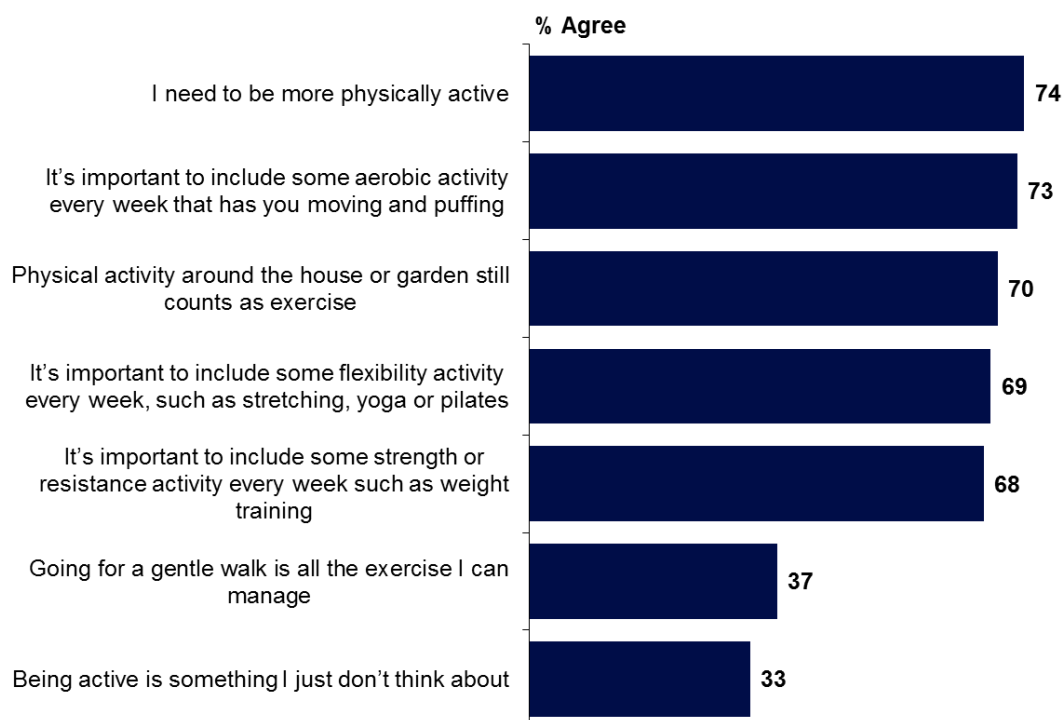
D3: Thinking about how much physical activity you did in the last seven days, do you think this is a healthy amount?

BASE: All respondents who exercised in past week (n=2952)

Drivers and barriers

Physical activity emerged through the qualitative research, together with eating vegetables as a **clear and universally accepted healthy behaviour**. Interestingly despite 42% of respondents being sufficiently active, nearly three in four (74%) were of the belief that they need to be more active, including 63% of sufficiently active respondents. There was strong agreement that a range of different types of activity is beneficial, although around one in three (37%) believed going for a gentle walk is all the exercise they can manage (in particular 45% of obese respondents and 42% of the Ambivalent segment).

Figure 8.4.3: Beliefs relating to physical activity



SOURCE: D5: To what extent do you agree or disagree with the following statements about physical activity?
BASE: All respondents (n=3150)

It was clear from the qualitative research that the most salient benefits of physical activity aligned strongly with the concept of wellbeing, perhaps more obviously than the dietary behaviours examined in this study. Engaging in physical activity was associated with 'feeling good' – a rush of endorphins following a workout, a boost of energy – while also providing short and long term benefits straddling both physical and mental health: fitness, weight-loss, the prevention of chronic disease, confidence and self-esteem, endurance, discipline, better sleep, mental clarity, and, in some cases, social bonding and family time. Nearly four in five respondents (78%) agree that they **feel good** about themselves after exercising, 71% claim they **sleep better** after exercising, and 67% claim they **think better** after exercising.

'If we haven't exercised for a little while we feel a bit down... we feel more positive when we exercise so that helps as far as our mood is concerned, and energy levels 100%.'
(Female, 25-39 years, Perth)

Being physically active was also considered something of a trigger to other healthy behaviours, including improvements in diet. Over half of all respondents (57%) believe they eat healthier when they are physically active.

'Sometimes we go to Strathfield Park with the children. The kids ride their bikes. It feels like quality family time. It's good – it gives you confidence.' (Mother, 25-39 years, Sydney)

The existence of a **formal exercise routine or regular planned activities** emerged in the research as a key **enabler** of participation, with four in five respondents (80%) acknowledging that having a good routine helps you be more physically active. Those qualitative participants who followed a regular exercise routine that was clearly planned out and scheduled in to their weekly activities tended to find it easier to commit to a physically active lifestyle in a long-term, ongoing sense. Routine exercise was associated with far fewer logistical and psychological barriers, greater enjoyment and more positive impacts: all of which were validating and reinforcing. Nonetheless, a disruption to the routine, whether through a life event or injury, could make it difficult to re-start.

Despite almost universal recognition of its benefits, the level of engagement in physical activity reflected a wide range of both internally and externally driven factors, as described below:

- **Gender disparity in social expectations:** There was a strong sense of motivation to be physically active amongst the male participants in the qualitative research, largely reflecting the prominence of fitness, strength and physicality in traditional notions of masculinity. Many of the males in the study showed a commitment to physical activity because of its association, not only with general health, but also with appearance, personal confidence and social approval. This was particularly observed amongst many of the younger men in the qualitative research.
- While the benefits of being active were recognised amongst women, social expectations were considerably lower than for men. Some of the female participants in the qualitative research expressed a lack of interest in physical activity, not 'identifying' as someone for whom it was important. Indeed, 27% of women in the online survey claim that "there's just no sort of physical activity I like doing". Moreover, for some of the more traditional mothers in the qualitative research (those who take primary responsibility for the home and children), there was a sense that deliberate planned activity was slightly indulgent – essentially 'me time', which, in the context of a busy life, managing husbands and children, was viewed as somewhat self-absorbed, taking them away from their seemingly more important 'role' as mothers and wives. This imbalance in expectations and entitlement around physical activity was particularly evident amongst some of the mothers from culturally and linguistically diverse backgrounds, and those in regional areas.

'I have to look after my family, so their health comes first. My health comes last. When the cooking and everything is done, then it's time for me time. If you ask any Indian housewife, if you have one hour's time, keeping in mind that your husband comes home from work and your kids come home from school, do you want to do one hour cooking for your family or spend one hour doing physical activity? I think most people prefer cooking for their family.' (Mother, 40-50 years, Sydney)

- **Practical challenges:** Engaging in physical activity could also be difficult from a practical perspective, and participants across the qualitative research spoke at length about the challenges of fitting it in to their busy lives. To do so required planning and preparation: a commitment to a regular, dedicated block of time, which they often struggled to find. Over one third of survey respondents (38%) claim they don't have time to exercise, and over half (58%) wish they had time to do more exercise. Moreover, participation for those with children often rested on the support of their partner or another friend/family member to pick up childcare duties. This was often logistically challenging, particularly for mothers in the qualitative research.

'I really want to do it, but it's kind of impossible. If I took these 5 hours that my daughter is at school to go to the gym, other stuff wouldn't get done.' (Mother, 25-34 years, Perth)

- **Cost:** The cost of some forms of physical activity was identified in the qualitative research as prohibitively expensive – gym and team sports in particular. Cost barriers were associated with both fees for participation and transport costs. Three in five men (60%) and 64% of women claim it is too expensive to join a gym or participate in organised sport.
- **Effort avoidance and rationalisation:** The qualitative research showed that while the benefits of physical activity were recognised, it was also associated with pain and discomfort, particularly for those who were unfit, while the required effort and exertion were also off-putting. Allied with this was a sense of **opportunity cost** in committing to exercise on a regular basis. It was associated with having to 'give up' more desirable or seemingly more important pursuits – like working or studying, 'downtime' or socialising. As a result, even when motivation was strong, a range of excuses were put forward to rationalise non-participation: it was 'too wet', 'too cold', 'too hot' or they were 'too tired', 'too late', 'too sick' or 'too hungover'. For overweight and obese cohorts, many of whom could not recall (or had never experienced) the 'feel good' benefits of being physically active, constant excuses of this type resulted in the formation of habits around 'not exercising', and a self-defeating mind-set.

'I set the alarm for 5am every day so I can go to the gym but always keep hitting the snooze button and I never go.' (Female, 25-39 years, Sydney)

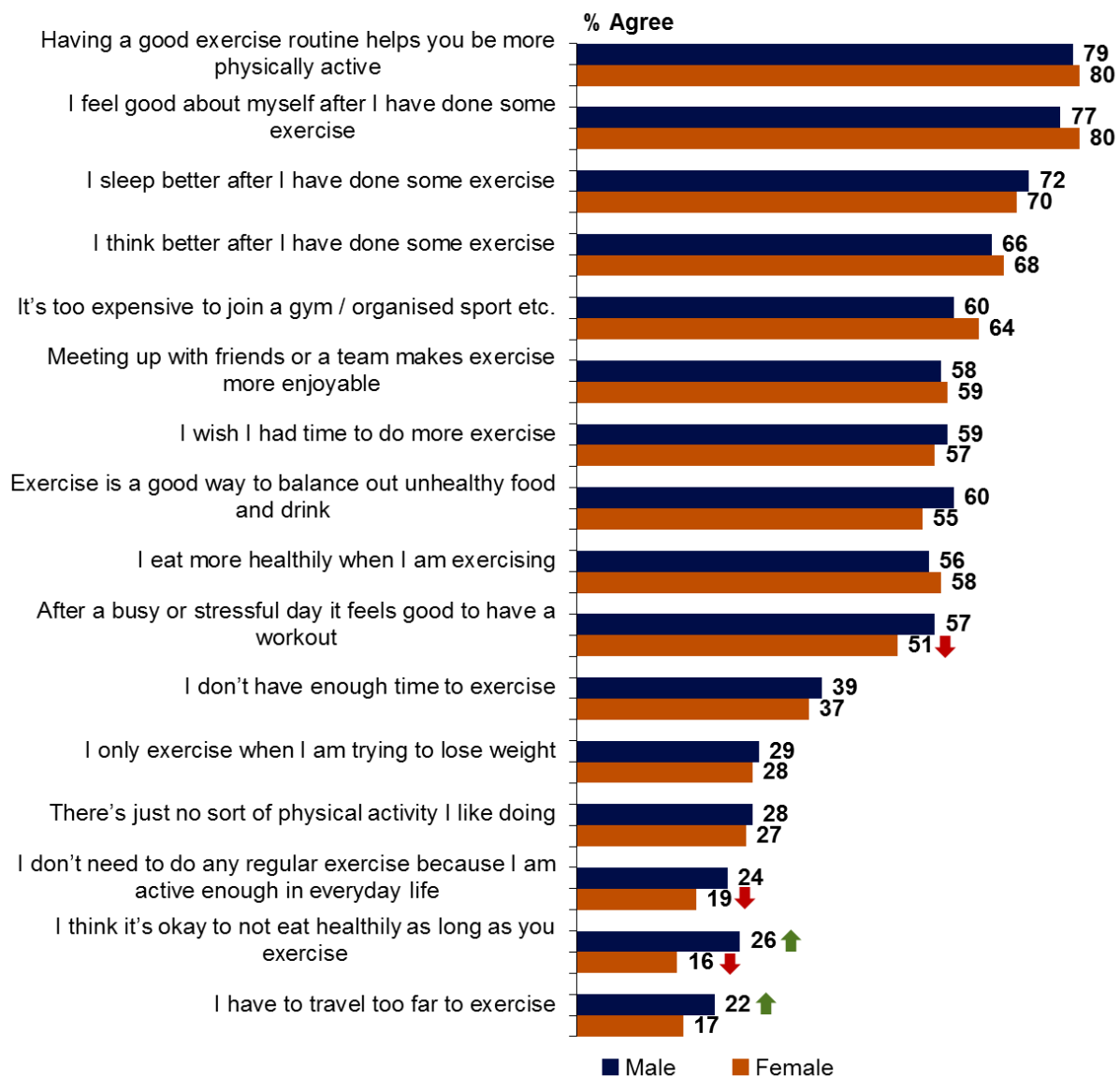
'I just hate exercise. I hate feeling hot and sweaty. I don't enjoy it at all. I struggle with motivation too – it is so difficult for me to motivate myself. Making time is also hard.' (Female, 25-39 years, Regional Australia)

- **'Optional participation' and a lack of accountability:** Unlike many of the dietary behaviours examined in this study, the qualitative research demonstrated that there was little sense of personal accountability around the decision to exercise, and a perception that there would be few negative consequences for anyone else if they chose not to do so. This was also used to rationalise non-participation. Conversely, however, the involvement of a friend or social group or team could instil a greater sense of responsibility to be involved. This is demonstrated by nearly three in five respondents (58%) of the view that meeting up with friends or a team makes exercise more enjoyable, and 59% believe it is easier to exercise with someone else.

'It's very hard to fit that time into your day. When we come home, the dishes are there in the sink and we need to fold out the clothes that have to go in the cupboard and we have to put the washing out. So that 45 minutes when we are meant to walk – it's not going to be feasible. Walking is a choice, unless you have some friends to go with who say 'Let's go, you are coming!' (Mother, 40-50 years, Sydney)

'It's more like a social gathering really; we go there to see each other and chat... but we do work out as well.' (Female, 25-39 years, Perth)

Figure 8.4.4: Costs and benefits of physical activity



SOURCE: D5: To what extent do you agree or disagree with the following statements about physical activity?

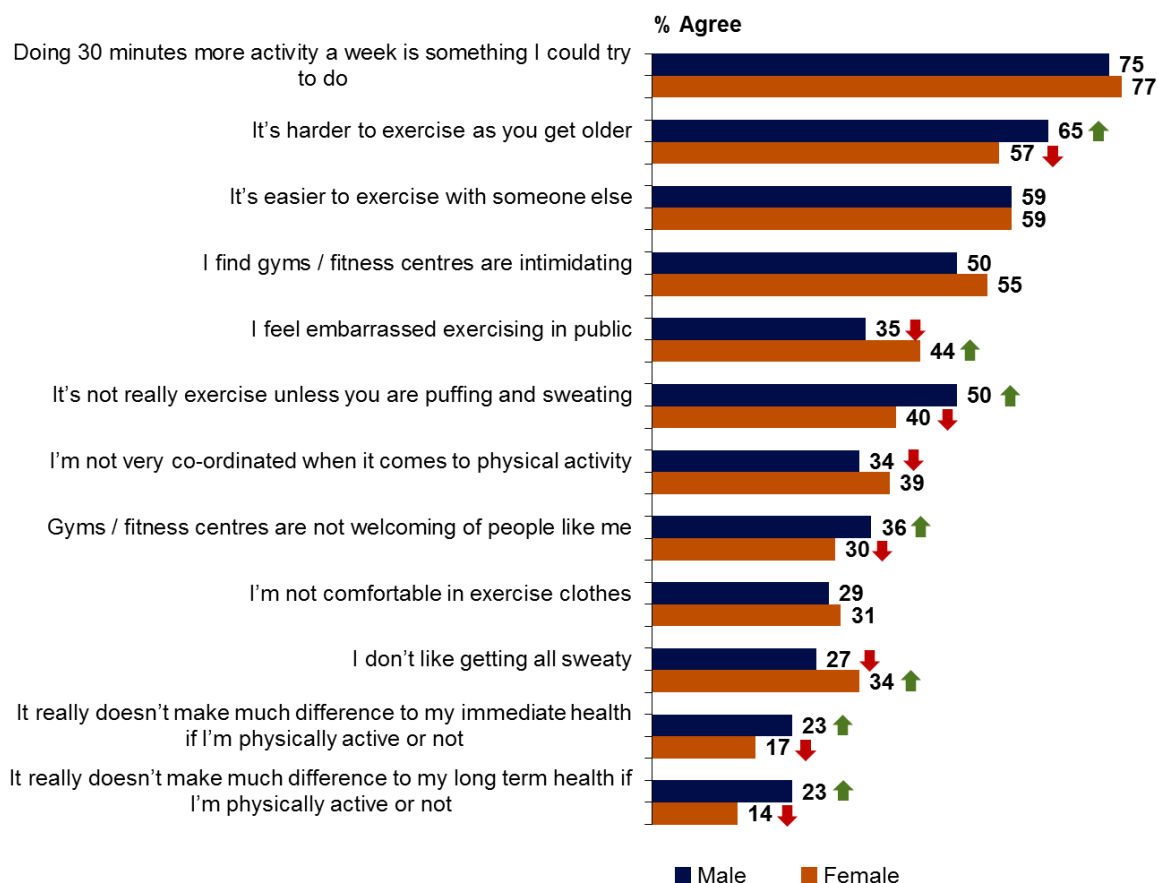
BASE: All respondents (n=3150)

NOTE: The downward pointing red and upward pointing green arrows indicate a significant difference at the 95% confidence interval against the total survey population.

- Embarrassment and self-consciousness:** Embarrassment and self-consciousness around physical appearance while exercising also emerged as a strong barrier, particularly for the more overweight and obese participants in the study, and for women more so than men (35% of men and 44% of women feel embarrassed exercising in public). The qualitative research highlighted that those who were of a normal weight could also be self-conscious however, expressing concern around the reactions of others if they appeared hot and sweaty, or seemed uncoordinated or too slow or unfit, or like they did not know what to do or were not able to keep up. Committed and Engaged were significantly less likely to agree that they felt embarrassed or self-conscious when exercising.

- **Response efficacy** is relatively high, with approximately two thirds of the view that physical activity does make a difference to their immediate (64%) or long term (69%) health. Women had higher response efficacy, as did older people who are more likely to see a clear link between being physically active and both their immediate and long term health. The Ambivalent segment had the lowest response efficacy (26% and 25% for immediate and long term health).
- **Self-efficacy** to increase physical activity is high, with around three quarters of respondents (76%) of the view that doing 30 minutes more activity a week is something they could try to do. Self-efficacy levels were significantly lower among the Ambivalent and Denial segments.
- **Environment:** Environmental factors also played a role in influencing the level of engagement in physical activity. This was particularly evident in the qualitative research in relation to the reliance on driving in certain areas (notably in the outer suburbs), reflecting a lack of viable public or 'active transport' options. Some also pointed to limited open spaces and parks or inviting places in which to be active. Around one in three (35%) respondents claim that if they were provided with appropriate facilities at work they would be more likely to use active transport, with males significantly more likely (37%) than females (32%). Finally, climatic influences were also observed in the qualitative research, with regular assertions that it was either too hot or too cold to exercise at certain times of the year, and a general preference for being physically active in the more temperate months.

Figure 8.4.5: Attitudes to physical activity



SOURCE: D5: To what extent do you agree or disagree with the following statements about physical activity?

BASE: All respondents (n=3150)

NOTE: The downward pointing red and upward pointing green arrows indicate a significant difference at the 95% confidence interval against the total survey population.

- Parents** acknowledge the important role they play in how physically active their children are, with over four in five parents (83%) of this belief. To this end, over three quarters (77%) encourage their children to be active every day. While two thirds of parents (68%) try and set a good example of being physically active for their children, over half (54%) believe it is more important that their children are active than that they are active.

Figure 8.4.6: Parental role in physical activity



SOURCE: D5: To what extent do you agree or disagree with the following statements about physical activity?
 BASE: All parents (n=1940)

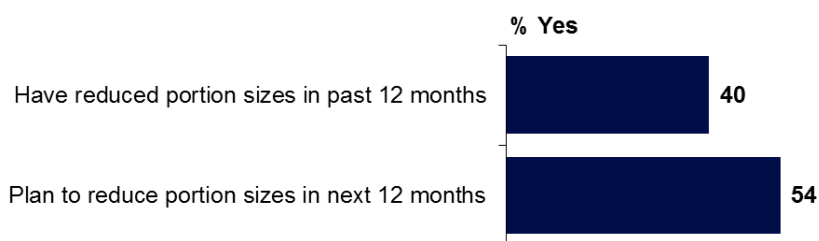
8.5 Portion control

While not considered a 'health' behaviour in the way that the other behaviours examined in this study were conceptualised, controlling portion size was viewed as a common sense strategy for weight loss. Nonetheless, the research revealed low recognition of the need to control portion size, reflecting often distorted views of what a 'healthy' size comprises, as influenced and shaped by the normalisation of large serving sizes. Barriers to restricting portion size also reflected a sense of deprivation, pressure to consume large quantities of food when socialising, and cost incentives.

Level of engagement

Two in five survey respondents (40%) have reduced their portion size in the past twelve months in order to maintain or lose weight, significantly higher among Committed (51%), Engaged (50%), Struggling (44%), females (43%), Aboriginal and Torres Strait Islander respondents (59%) and those who are currently obese (53%). Over half the sample (54%) plan to reduce portion sizes in the next twelve months in order to maintain or reduce weight, significantly higher among a similar profile: Committed (63%), Engaged (64%), Struggling (62%), females (59%), Aboriginal and Torres Strait Islander respondents (67%), overweight (60%) and obese (76%) respondents.

Figure 8.5.1: Reducing portion sizes



SOURCE: E9: Over the past 12 months have you reduced your portion sizes in order to maintain or lose weight?
E10: Over the next 12 months are you planning on reducing your portion sizes in order to maintain or lose weight?
BASE: All respondents (n=3150)

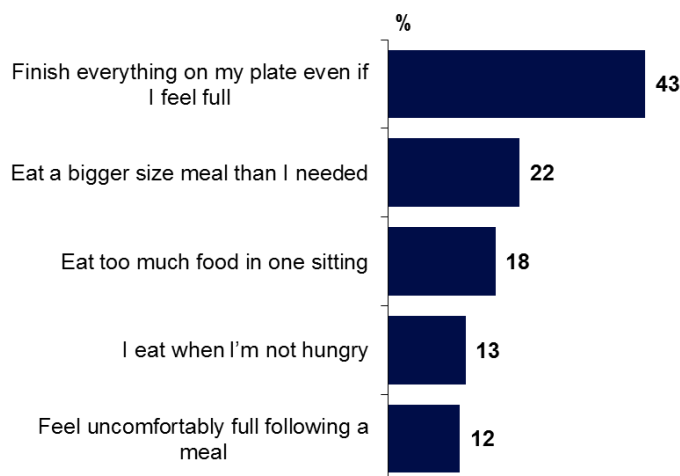
Drivers and barriers

Portion control was widely accepted by qualitative participants as an effective technique for weight loss, though its links to good health in any other sense were unclear for many. As a lifestyle change, it was considered relatively straightforward, lacking the logistical complexities of many of the other health behaviours examined in this study. Nonetheless, the research revealed a number of barriers to limiting portion size, as described below:

- **Lack of awareness of 'healthy' portion size:** The qualitative research highlighted a skewed and incorrect understanding of what a 'healthy' portion size actually constitutes, and low confidence across study participants to determine if they were eating too much or too little. Over-eating was mostly assessed in terms of how 'full' they felt physically, with little reference to portion size. Moreover, reaching this 'full to capacity' feeling was often normal. Finishing everything on your plate is ingrained for over two in five respondents (43%), significantly more likely among men (50%), Struggling (48%), Aboriginal and Torres Strait Islander respondents (53%), and CALD respondents (50%).

- Other common ‘overeating’ behaviours are eating a bigger size meal than needed (22% of all respondents), and eating too much food in one sitting (18% of all respondents). These behaviours were significantly more prevalent among obese respondents, the Struggling segment, 18 to 34 year olds, and Aboriginal and Torres Strait Islander respondents. Around one in ten always or most of the time ate when not hungry (13%) or feel uncomfortably full following a meal (12%), particularly younger respondents, the Denial segment, and Aboriginal and Torres Strait Islander respondents.

Figure 8.5.2: Frequency of overeating



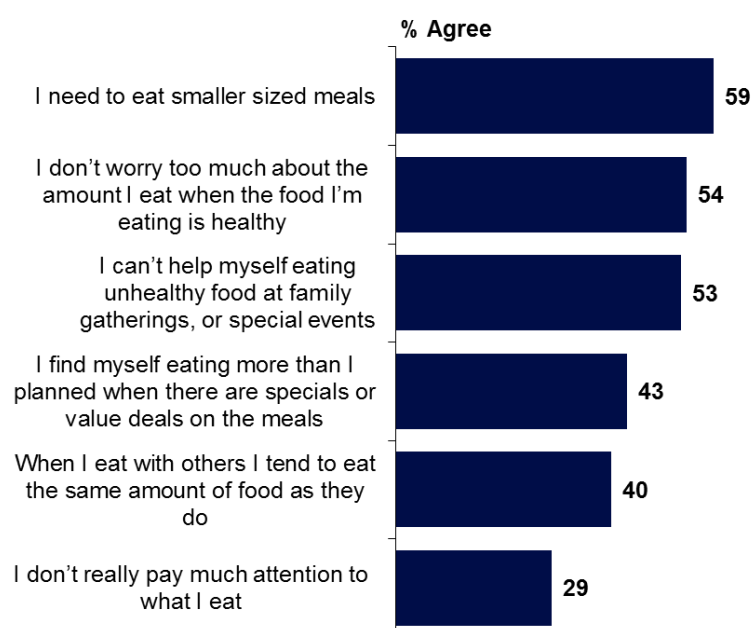
SOURCE: B11: How often do you do each of the following...?
 BASE: All respondents (n=3150)

- The qualitative research suggest that this distorted view of portion size appears to be influenced in no small part by social norms, constantly reinforced by typical meal sizes at restaurants and cafes, and amongst peer groups and partners, and validated by shared narratives around wastage. Serving sizes tended to be ‘matched’ across the group, irrespective of individual energy needs, with four in ten (40%) agreeing that “When I eat with others I tend to eat the same amount of food as they do.” This attitude was significantly more prevalent in parents (44%), 18 to 34 year olds (51%), and Aboriginal and Torres Strait Islander respondents (74%).
- **Strong need recognition:** Despite this many participants identify a **need** to be eating less, with three in five (59%) respondents agreeing that they needed to eat smaller sized meals. This was particularly evident amongst those who were overweight (63%) or obese (75%) as well as the Struggling segment (68%).
- **Deprivation:** Psychologically, controlling portion size was associated with **deprivation and dieting**, which made it inherently unappealing for many in the qualitative research. Those who had been through weight loss programs engaged in strategies to assist in controlling their portion size, including using a smaller sized plate or smaller food containers, and packing away leftovers to discourage a second helping. This was typically effective, particularly in the short-term when motivation was high. Over time, however, the sense of deprivation inherent in this approach, particularly at times of stress or tiredness, made it difficult to sustain, resulting in increased snacking, and/or a gradual ‘creep’ back to ‘normal’ portions.

‘You just don’t want to get to the point where your obsessing over every calories that you eat and then food isn’t enjoyable anymore.’ (Female, 25-30 years, Perth)

- **Social pressure and normative influences:** Normative influences could also make it difficult to control portion sizes, both by creating social pressure to eat large quantities (particularly during celebratory occasions), reinforcing a sense of deprivation around eating less than others. Over half the quantitative sample, (53%) for instance, agreed that “I can’t help myself eating unhealthy food when you are at big family gatherings, or special events/functions”, in particular parents (56%), Struggling (60%), 18 to 34 year olds (61%) and Aboriginal and Torres Strait Islander respondents (73%). This could make it difficult to eat less, even when there was motivation to do so.
- **Cost incentives:** The impact of low cost restaurant ‘specials’ was also evident, with some 43% of respondents agreeing that “I find myself eating more than I planned when there are specials or value deals on the menus when I am eating out”. This was significantly more prevalent among parents (46%), Struggling (48%), respondents living in capital cities (46%), respondents with a household income between \$60-150k (48%), 18 to 34 year olds (54%), respondents with a CALD background (52%) and Aboriginal and Torres Strait Islander respondents (69%).
- **Link with perceived health:** Portion size is considered less important when the food consumed is considered to be healthy, with over half of respondents (54%) agreeing that they don’t worry too much about the amount they eat when the food they are eating is healthy. This is significantly more prevalent among Struggling (58%), respondents aged 25 to 34 years (60%), those with a household income of \$60-100k (60%), those from a CALD background (61%) and Aboriginal and Torres Strait Islander respondents (75%).

Figure 8.5.3: Attitudes to amount and type of food eaten



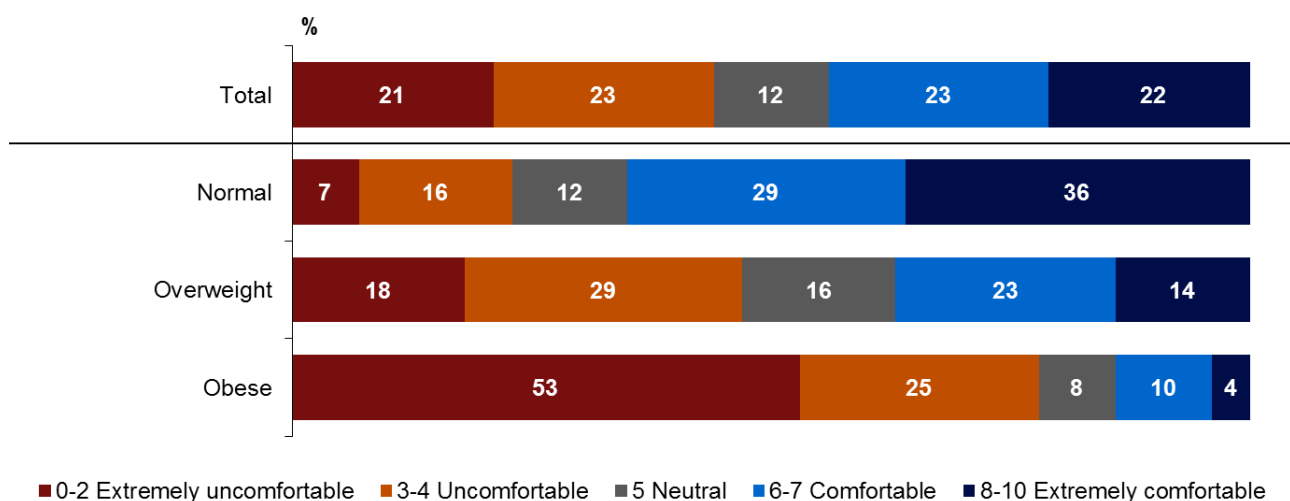
SOURCE: C1: To what extent do you agree or disagree with the following statements about healthy eating?
 BASE: All respondents n=3150

9. Maintaining healthy weight

The qualitative research suggests that while weight is a salient issue for many, its association with health is not always clear, with overweight not necessarily considered indicative of poor health. For younger participants, the negative impacts of overweight were largely associated more consistently with attractiveness, self-esteem, confidence and social approval: issues primarily connected with body image rather than health. Amongst older participants there was greater recognition of the risks of chronic health disease, including diabetes, high blood pressure and heart disease. However, these were more strongly associated with **obesity** rather than overweight. Moreover, few in the study identified as 'obese' (including those who were obese according to BMI), and so tended not to internalise these risks.

Indeed, the research highlighted a progressively **distorted perception of weight**, reflective perhaps of the increasing normalisation of overweight. The notion of 'healthy weight' appears to be a fairly flexible term, personally interpreted and understood. As demonstrated in the figure below, close to half of all survey respondents (45%) are comfortable with their current weight, with levels of comfort varying significantly depending on weight category. Women are significantly less comfortable with their weight than men (39% compared to 50%) regardless of their weight category. One in seven obese respondents (14%) and 37% overweight respondents claim to be comfortable with their weight, significantly less than average and normal weight respondents. Struggling are the least comfortable segment, with 41% claiming to be comfortable. Committed and Engaged however, appear the most comfortable with 32% and 27% extremely comfortable.

Figure 9.1: Comfort with current weight



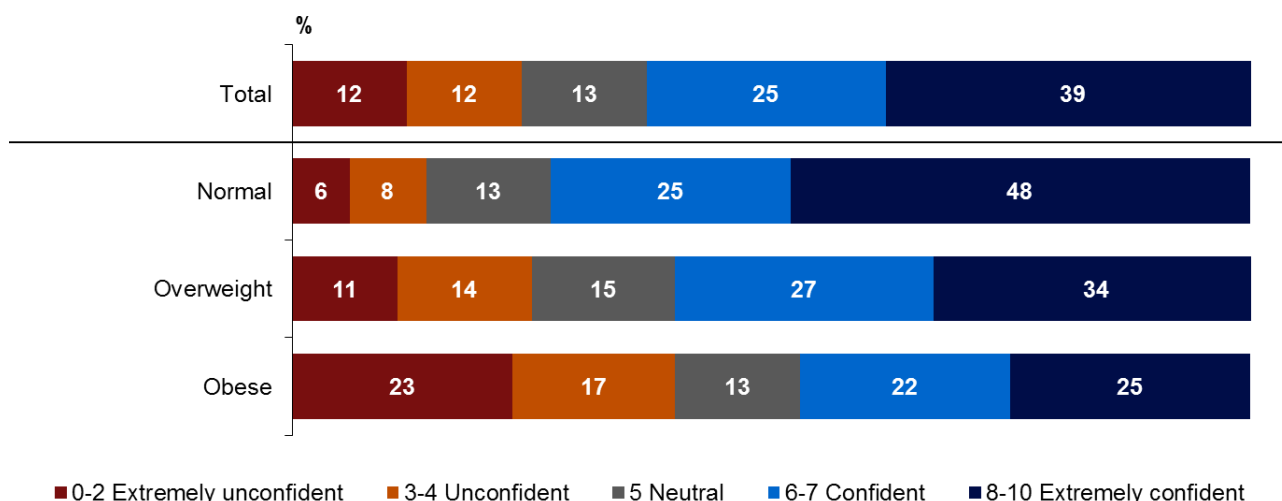
SOURCE: E4: How comfortable are you with your current weight and/or body shape?
 BASE: All respondents (n=3150)

Nearly two thirds of respondents (63%) are confident in their ability to not put weight on over the coming twelve months, although this varies significantly according to weight category, with 73% of respondents of a normal weight confident, decreasing to 61% of overweight and 47% of obese respondents. These relatively low levels of confidence for the overweight and obese respondents, when combined with high likelihood to attempt weight loss in the coming twelve months (70% of overweight and 81% of obese respondents claim this), suggests an almost fatalistic approach to weight gain by these groups.

Committed and Engaged are the most confident segment in their ability to remain the same weight (74% and 70%), with significantly higher confidence also coming from those with a household income above \$150k (68%), males (70%), and Aboriginal and Torres Strait Islander respondents (73%). The Denial segment (54%), females (57%), and those with an income less than \$60k (58%) had significantly less confidence.

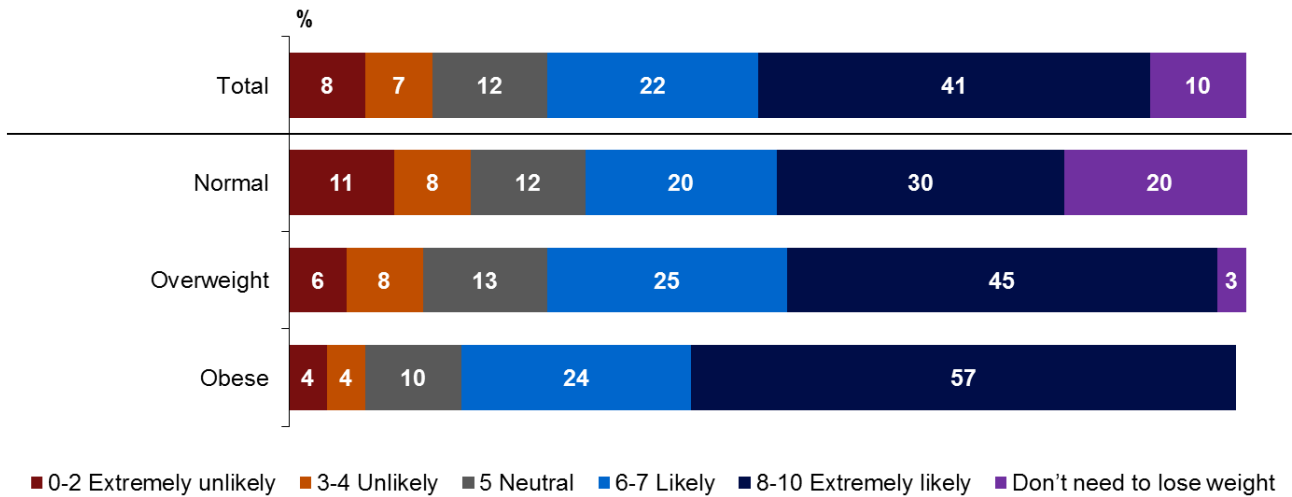
Likelihood to lose weight over the next 12 months was significantly higher among Committed (69%), Engaged (74%), Struggling (69%), as well as Aboriginal and Torres Strait Islander respondents (81%). The Denial and Ambivalent segments had significantly lower likelihood to attempt to lose weight (40% and 59% respectively).

Figure 9.2: Confidence in ability to not put weight on in the next 12 months



SOURCE: E5: How confident are you in your ability to not put weight on over the next 12 months (i.e. to stay the same weight that you are now)?
 BASE: All respondents (n=3150)

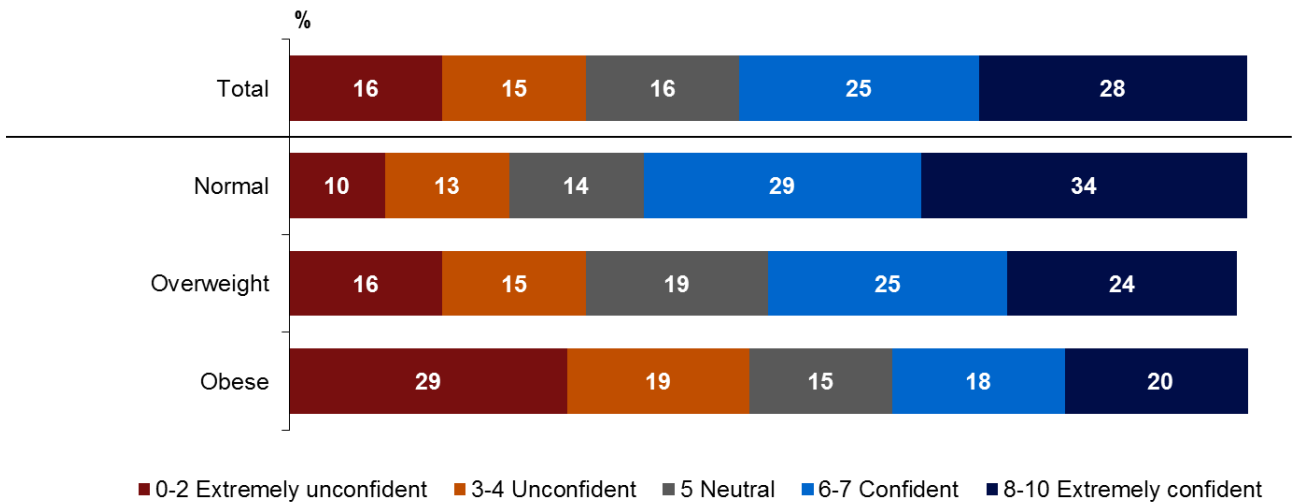
Figure 9.3: Likelihood to attempt to lose weight in next 12 months



SOURCE: E7: How likely do you think it is that you will try to lose weight over the next 12 months?
 BASE: All respondents (n=3150)

Confidence in ability to not put weight on over the next five years is lower than confidence over the next twelve month (53% compared to 63%), with significant differences according to weight category (62% of normal weight, 50% of overweight and 38% of obese respondents). This does not match the somewhat aspirational claim by 91% of obese respondents that they expect to weigh the same (39%) or less (52%) in five years' time, than they do now.

Figure 9.4: Confidence in ability to not put weight on in next five years



SOURCE: E6: How confident are you in your ability to not put weight on over the next 5 years (i.e. to stay the same weight that you are now)?
 BASE: All respondents (n=3150)
 NOTE: Responses may not add to 100% due to rounding.

Table 9.1: Expectations of weight in five years' time

% agree	Total	Normal	Overweight	Obese
Weigh more than now	16%	21%	14%	9%
Weigh about the same as now	57%	69%	54%	39%
Weigh less than now	27%	10%	31%	52%

SOURCE: E8: Thinking about five years' time, do you think you will.....?
 BASE: All respondents (n=3150)

Reinforcing the shifting norms and to some extent the justification of these, the research demonstrates rejection of quantitative indicators of healthy/unhealthy weight – particularly the BMI. There was considerable scepticism about the reliability of a single, generalised measure of body weight, without accounting for other contributors to weight – particularly muscle mass, fluid retention, bone size or 'build'.

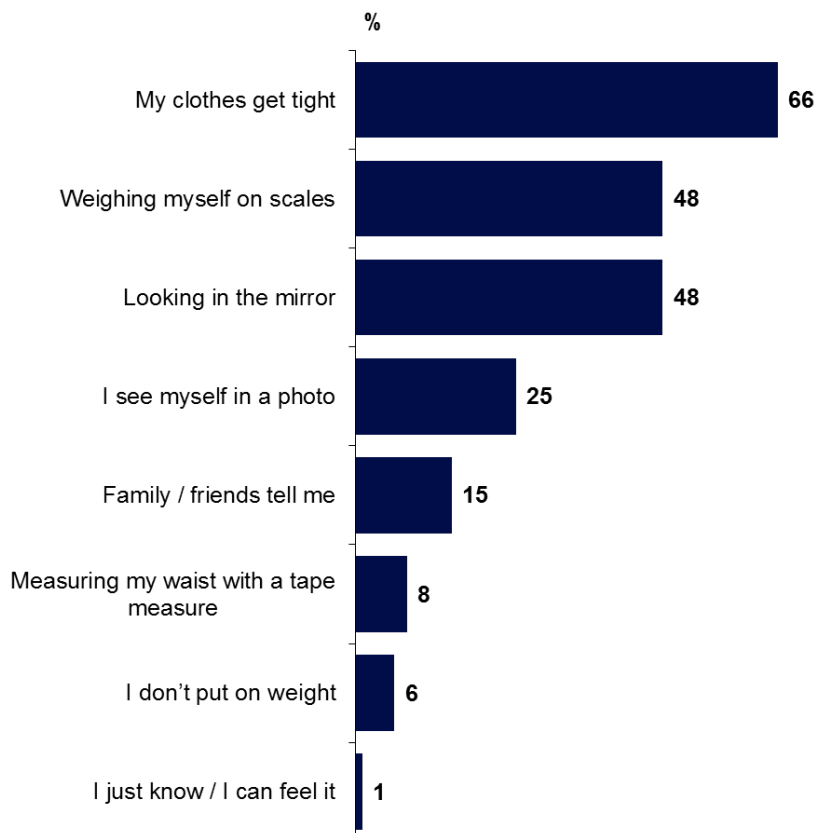
Table 9.2: Perceptions of weight and health

% agree	Total	Normal	Overweight	Obese
The BMI does not provide an accurate indication of how healthy you are	49%	53%	48%	44%
My weight probably falls within a healthy range	47%	74%	36%	11%
Being overweight does not necessarily mean you are unhealthy	42%	45%	41%	40%

SOURCE: E14: To what extent do you agree or disagree with the following statements?
 BASE: All respondents (n=3150)

As a result, overweight participants tended to discount their BMI, instead using their own ‘qualitative’ assessment of their weight, often based on clothes fit, appearance, sense of wellness, energy levels and mood. This essentially allowed overweight participants to determine that their weight was normal and healthy for them, despite an overweight BMI.

Figure 9.5: Indicators of weight gain



SOURCE: E13: What are the indications for you that you have put on a bit of weight?
 BASE: All respondents (n=3150)

Similar biases were applied to an assessment of lifestyle. For overweight and obese participants in the qualitative research, any conflict between the reality of their lifestyle and a generally accepted image of what a healthy lifestyle should comprise was rationalised in various ways:

- **Availability bias** allows people to point to aspects of their lives that are more indicative of a healthy lifestyle, while disregarding aspects that are manifestly unhealthy. Participants, for instance, cited eating fruit and vegetables, going for walks, doing yoga as evidence of a lifestyle that was healthy for them, despite also over-eating, consuming discretionary foods throughout the day, and engaging in little aerobic exercise.
- **Self-exclusion from more extensive health behaviours**, particularly by highlighting the constraints of a busy lifestyle and reduced physical capacity. This was considered in a sense a 'normal' or acceptable lifestyle within the context of their lives.
- **Denial of reported links between overweight and chronic disease**, citing examples of 'overweight' people who did not suffer any ill-health:

'My father was a big bloke, always 120kgs plus...He would eat everything that he could lay his hands on but his blood and other vital statistics are the best they can be. The doctor commented in his latest heart check that he has the heart of a 49 year old, even though he is over 90 now.' (Male, 40-50 years, Melbourne)

10. Information sources and the influence of social media on diet

The qualitative research draws attention to the extensive 'noise' generally around health and lifestyle, generated by a wide and diverse range of sources, taking various, sometimes overlapping, forms:

- Entertainment (reality television/cooking shows/magazine articles/social media);
- Information (websites/social media/magazines/books/documentaries);
- Education (school/coaches/personal trainers/parents);
- 'Informed' opinion (family/friends/celebrities/bloggers); and
- Specialist advice (health professionals/complementary medicine consultants/nutritionists/gym instructors).

For audiences, the effect is **constant, inescapable exposure** to health related messages, many of which are contradictory and confusing. The challenge is to make sense of it all. For the most health conscious, this triggers a search for clarity, by seeking professional advice. The majority, however, hang onto whatever confirms their existing beliefs and attitudes. In this saturated environment, **selective processing and confirmation bias** flourish.

The evolution of 'knowledge' about healthy lifestyles

For the most part, qualitative participants pointed to the significant influence of **early education** about diet and lifestyle obtained formally through school (e.g. food science, health and physical education) and informally via parental role modelling and norms within their family, neighbourhood and friendship groups.

This 'core' knowledge base was constantly added to and updated through information obtained primarily through **social media** (Facebook, Instagram – both personalities and companies), and to a slightly lesser extent television programs (Master Chef, My Kitchen Rules), documentaries ('That Sugar' film), blogs, celebrities (chefs, personal trainers, health gurus), online recipe sites (taste.com) and views of friends and family. Those who are particularly engaged with the issue also sought out information from 'experts', including doctors and naturopaths, as well as dietitians and fitness instructors.

Overall, however, the qualitative research highlights that there did not appear to be a great deal of analysis or criticism of various sources, and very little investigation around the origin of information or the motives for a particular viewpoint. Instead, **credibility was attributed to messages that 'rang true'** by:

- Supporting existing behaviour or reinforcing beliefs and attitudes (primarily);
- Delivery across several channels; and/or

- Endorsement by a respected ‘expert’ (e.g. trainer from the Biggest Loser, Dr Oz, celebrity with a large following, Men’s/Women’s Health Magazine, Dr Karl, government sources).

‘I read it and then you decide for yourself if it’s good or bad. It’s the fad stuff that I would question – like have apple cider vinegar every morning – people say that really helps with weight loss, or fresh lime juice... the apple cider, yeah I can see how that could work, but the acidity on an empty stomach every morning, I would question that.’ (Mother, 25-39 years, Sydney)

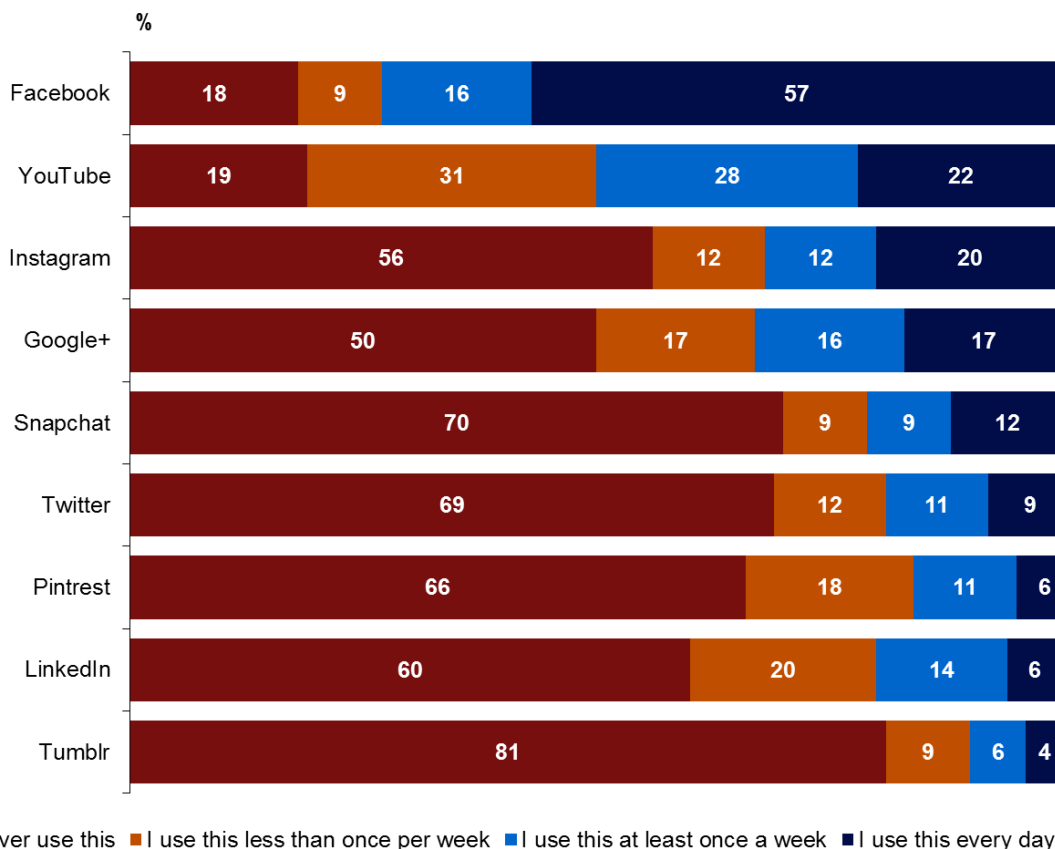
More detail around the way in which individual sources of information were commonly used appears below.

10.1 Online

Social media articles, recipes, tips and tricks

Social media is now entrenched in the daily lives of the majority of Australians, with Facebook the most common and universal source, significantly higher daily use is evident amongst Struggling (61%), parents (61%), females (67%), 18-24 year olds (72%), 25 to 34 year olds (68%), and respondents with a household income of \$60-100k (61%).

Figure 10.1.1: Social media use

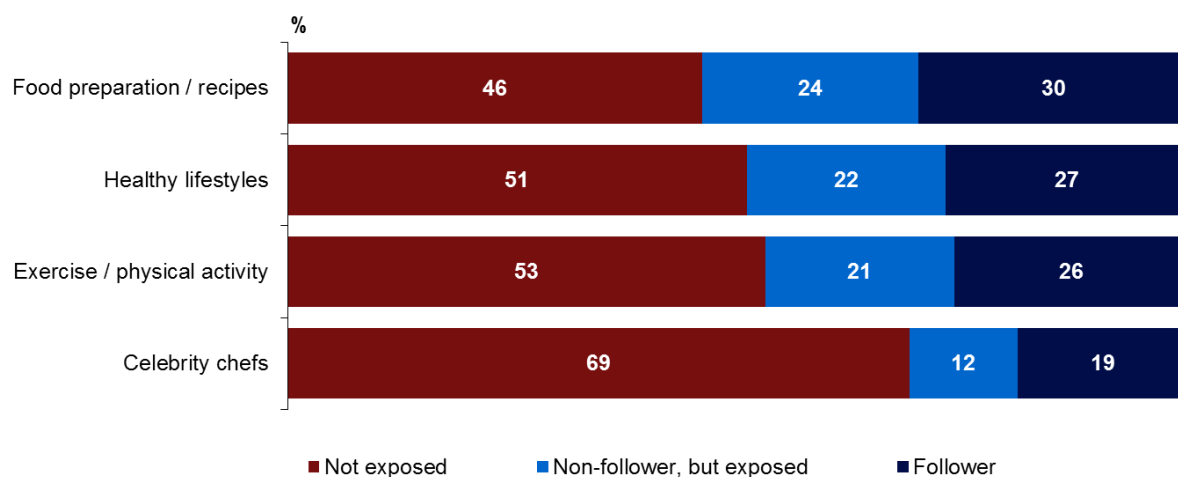


SOURCE: G1: How frequently do you use the following social media?
 BASE: All respondents (n=3150)

Not surprisingly then, the qualitative research demonstrated that with the exception of those aged over 50 years, social media was the primary source of information in regard to health accessed by participants. Posts from a range of personalities (friends, celebrities, companies) convey messages designed to sell and entertain as much as to inform and advise, and include, diet ideas, health and weight loss ‘philosophies’; recipes and menu ideas; ‘healthy’ foods; and fitness regimes (‘fitstagrammers’).

The pervasiveness of social media in the lives of younger people in particular means that they are constantly exposed to this content. While health and fitness information is not necessarily actively sought out personally, it is constantly received passively through the sharing of information across newsfeeds. Around two thirds (64%) of social media users at least occasionally see posts relating to food, while over half (54%) at least occasionally see posts about exercise and physical activity. Over half of those exposed are actively following particular groups or people as outlined in the figure below, and as such are exposed regularly to the specific philosophies, thereby reinforcing their legitimacy.

Figure 10.1.2: Exposure to posts on topics



SOURCE: G3: For each of the areas below do you follow particular groups or people or pages on social media, or do they come up regularly in your feed?
 BASE: Those who use Facebook, Pinterest or Instagram (n=2729)

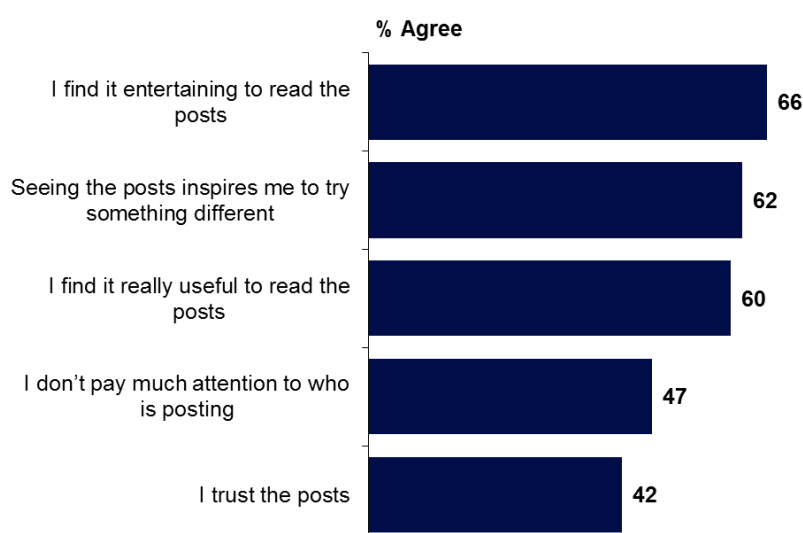
The qualitative research showed that focus on other people and what they do/achieve means that the content is often both highly relatable and aspirational. Further, the visual nature and ‘bite size’ format encourages very fast assessment, and a breadth of messages from which to choose something of interest.

‘I think fitstagrammers force you to compare yourself with them. Their bodies are generally amazing so it makes you think to yourself “I want to look like that”.’ (Female, 25-39 years, NSW)

'You can see a lot on social media – on Instagram there's a lot that influences what you do in your daily life. So there's pages like 'popfitness' – they post a lot of videos, exercise videos and also videos around healthy eating – what's good for you, and they even have tips around what you can do to improve your vitamin levels and help with your sleep. There is also a lady called Kayla Itsines – she's on social media, and she posts a lot of fruit plates and photos of exercise techniques, and it shows you people who have started to do these workouts and see the progress from Day 1 to Day whatever. That is encouraging to see. It encourages us to look back and think about what we're eating or what we're doing.' (Male, 25-39 years, Sydney)

While the multitude of sometimes conflicting health related messages on social media is met with some scepticism, the origin of information did not appear to be altogether relevant, with 47% of those who are exposed to health related posts claiming they don't pay attention to who is posting – driven by the large segment of Ambivalent (52%). Size of following, together with peer endorsement (through number of 'likes') tended to be viewed as a proxy measure of credibility, with 42% claiming to trust the posts. Messages taken on board were those that resonated with personal views, aspirations and beliefs, and were in some way engaging, inspiring or motivating. The Engaged segment was significantly more likely to view social media posts favourably.

Figure 10.1.3: Perceptions of food and physical activity posts on social media



SOURCE: G5: To what extent do you agree or disagree with the following statements?
 BASE: Those who follow or see in feed (n=1807)

The qualitative research suggests that behavioural advice might then be 'tested' through a process of experimentation. This was most commonly observed in relation to 'low risk', 'low investment' actions such as testing a new recipe (which looked particularly easy and appetising), trying a new exercise or workout routine, experimenting with a minor change in diet (apple cider vinegar and lemon in water, 'The Man Shake'). Seven in ten (70%) of those who have been exposed to food related posts have cooked a meal or recipe as a result of seeing it on social media (significantly higher for Committed (76%) parents (78%), females (76%) and those aged 25-34 years (76%), while 48% have tried a new exercise or type of physical activity (significantly higher among respondents with a normal weight (53%), Engaged (57%), and those aged 25 to 34 years (57%)).

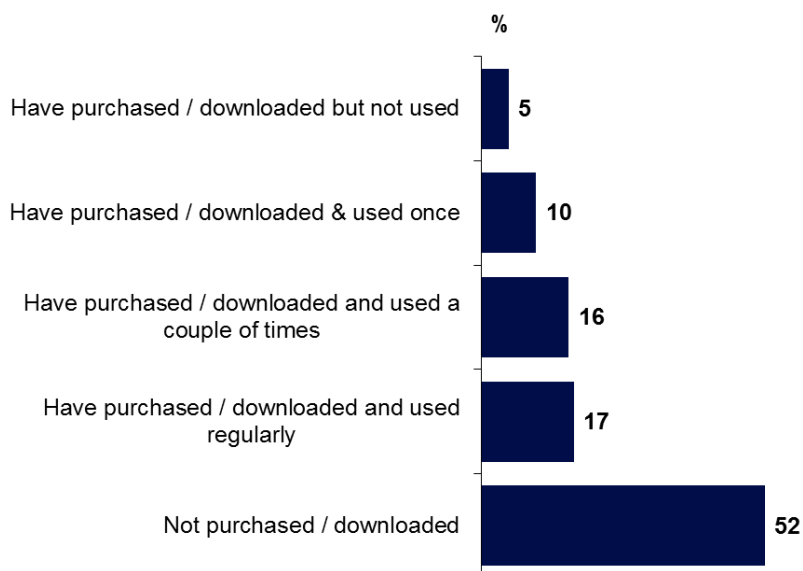
The qualitative research affirmed that new habits tended to form when the activity being trialled was noted to have had a positive impact – e.g. a great tasting healthy recipe may be added to the repertoire, or a workout routine which is seen to deliver greater strength or fitness may be incorporated as part of a regular exercise routine.

'It is kind of like an inspiration feed that gets me motivated. It is not overly educational...I guess new exercise moves are but that is about it. It is reminding me that I need to work-out today.' (Female, 18-24 years, Sydney)

Bloggers: The qualitative research demonstrated high level of trust being bestowed on 'favourite' bloggers like Sarah Wilson. Their advice was accessed both through their blogs, but also through their often very high level of activity on social media.

Applications: Around one in six (17%) respondents regularly use apps or devices to track their food or exercise, with a further 31% having demonstrated some interest by downloading, without necessarily using regularly. Committed are significantly more likely to use technology to aid them in their health journey, with 30% regularly using an app or device that tracks food and/or exercise.

Figure 10.1.4: Use of apps/devices that track food or exercise



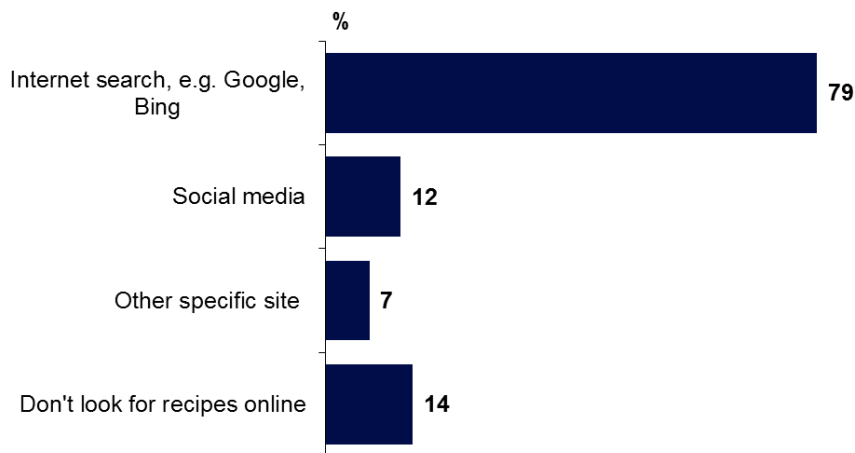
SOURCE: G6: Have you ever used an app or device that tracks your food and/or exercise?
 BASE: All respondents (n=3150)

A variety of apps are used by qualitative participants, with those involving quantification of a combination of diet and physical activity (such as MyFitnessPal) influential for the younger cohort being used as both an information and motivational tool. Apps such as 'Couch to 5km', 'runkeeper', 'BBG' and the Nike app were used to set goals and motivate increased physical activity and were generally used to 'kick-start' a change in habit.

Physical activity based apps appear to trigger behaviour change without necessarily first impacting knowledge or positive intentions. Apps were used as both a motivational tool and a means to incrementally improve fitness. Positive reinforcement delivered through quantification of achievement, motivated ongoing activity potentially leading to habit formation. However, lapses in routine often resulted in the activity being abandoned or not re-introduced for some time.

Websites: The majority of respondents (86%) access recipes online, significantly higher among respondents of normal weight (89%), Committed (90%), parents (89%) and females (91%). General ‘googling’ was the typical approach for actively searching out information, while some accessed a few favourite websites – particularly recipe sites like Taste.com.

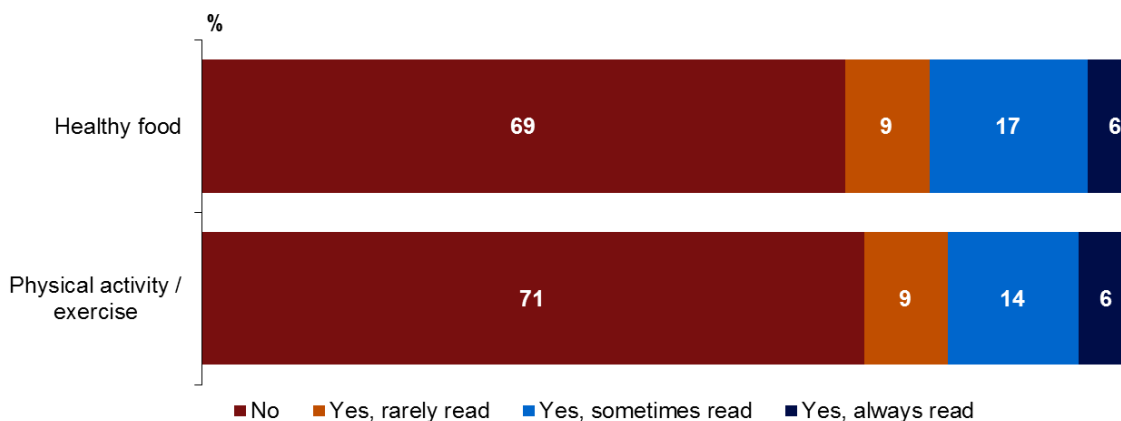
Figure 10.1.5: Online recipe sources



SOURCE: G13: If you wanted to find a recipe online would you...
 BASE: All respondents (n=3150)

Email groups: Subscription to email groups was less common, with 23% of respondents subscribing to email groups relating to healthy foods sometimes or always reading them (significantly higher among normal weight respondents (27%), Committed (30%), and those aged 25 to 34 years (34%)), compared to 20% related to physical activity or exercise (significantly higher among normal weight respondents (25%), Committed (24%), Engaged (24%), and those aged 25 to 34 years (34%)).

Figure 10.1.6: Subscription to email groups



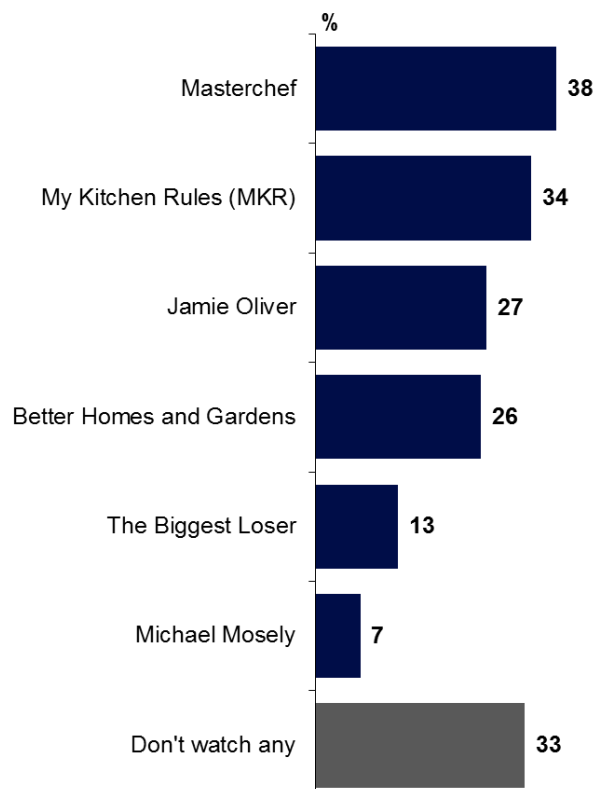
SOURCE: G7: Do you subscribe to any email groups that send you information about....?
 BASE: All respondents (n=3150)

10.2 Traditional media

Documentaries (e.g. ‘That Sugar Film’/Michael Mosely): Health related documentaries were often viewed by qualitative participants as highly credible, presenting novel and shocking information. They were also considered to be highly motivating, with several examples noted of the intention to reduce sugar consumption following watching the film translating into behaviour change (e.g. swapping from low fat flavoured yoghurts to Greek yoghurt, swapping from fruit ‘roll-ups’ to fresh fruit in lunchboxes). The higher commitment segments, Committed and Engaged recorded significantly higher viewership of these documentaries.

Television programs (Master Chef, My Kitchen Rules): Around two thirds of respondents (67%) watch television shows about cooking, kitchen or fitness, significantly higher among those of normal weight (71%), parents (70%) females (73%), as well as Struggling (73%) and Engaged (72%). Deniers and Ambivalent were on the other hand, significantly less likely to watch any of these programs (59% and 63% respectively claim watching any). The qualitative research indicates that these shows influenced participants’ understanding of normal or healthy eating. New recipes might be trialled if they appealed/seemed sufficiently easy, and added to the repertoire if successful.

Figure 10.2.1: Cooking and fitness television shows watched



SOURCE: G12: Do you ever watch any shows about cooking/kitchen or fitness on television?

BASE: All respondents (n=3150)

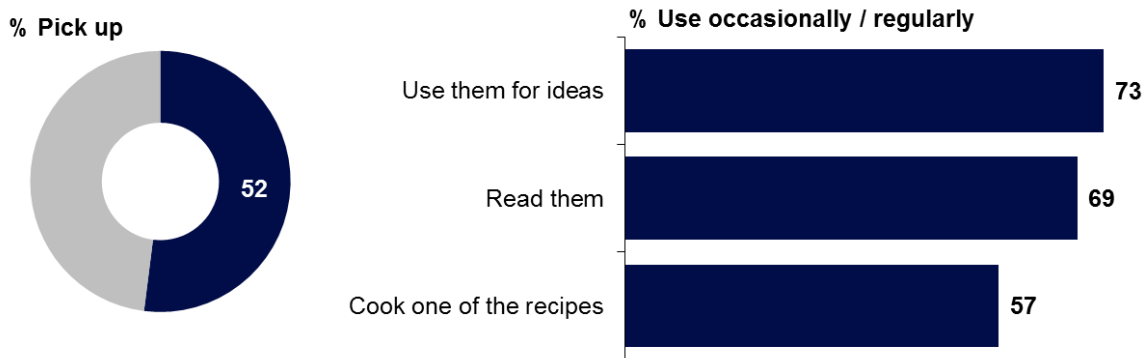
NOTE: Responses <7% not shown

Celebrities: Advice from celebrities – whether celebrity chefs like Jamie Oliver, Pete Evans or George Calombaris, or ‘fitness gurus’ like Michelle Bridges and Steve ‘Commando’ Willis was also considered valuable to qualitative participants. The positioning of these people as ‘experts’ in the media gave their advice credibility, while their charisma and popularity added to their appeal.

'You see people on TV and you think I want to be like that person. I want to be healthy like they are. I want to eat like they do.' (Mother, 25-39 years, Sydney)

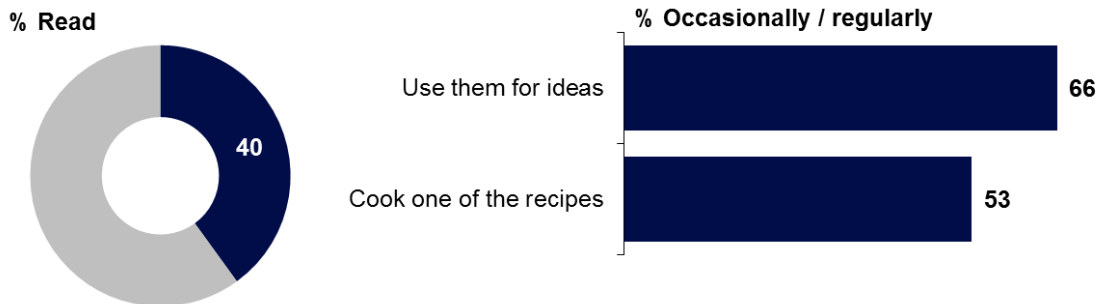
Magazines/supermarket magazines: Older qualitative participants read recipe and health magazines. Supermarket magazines containing meal plans and recipe ideas were considered useful and were referenced for dinner ideas in particular. Around half of respondents (52%) pick up free magazines in supermarkets, and go on to use them either for ideas, or trying a new recipe, particularly females (62%) and Committed (62%). Two in five respondents (40%) read the recipes in newspaper lift outs or magazines, particularly females (48%), Engaged (49%), and those aged between 50 and 64 years (45%).

Figure 10.2.2: Use of supermarket recipe magazines



SOURCE: G8: Do you ever pick up free recipe magazines in supermarkets when you are there shopping?
 BASE: All respondents (n=3150)
 SOURCE: G9: How often do you do the following with the free recipe magazines from supermarkets?
 BASE: Those who pick up free supermarket recipe magazines (n=2267)

Figure 10.2.3: Use of recipe lift outs



SOURCE: G10: Do you ever read the recipes in newspaper lift outs or other magazines that you buy?
 BASE: All respondents (n=3150)
 SOURCE: G11: How often do you do the following with the recipes from newspaper lift outs or other magazines?
 BASE: Those who read recipe lift outs in newspapers and magazines (n=2014)

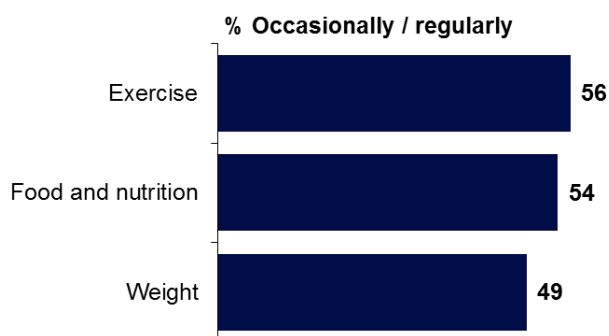
10.3 Face to face

Family and friends: Many qualitative participants referred to an ‘expert’ friend or family member who was in some way connected with health – either as a personal trainer or a doctor or nutritionist, or simply very engaged with the topic. Their influence was often very strong, particularly if the relationship was close. For those attempting to lose weight, such a person often played an essential role as a mentor, helping to modify behaviours and dealing with setbacks.

‘Because I am in a field where there are a lot of allied health professionals, people that take a lot of interest in their own health, I can get a lot of the advice from them.’ (Male, 25-39 years, Perth)

Exercise was the topic most commonly discussed with family and friends (56%), more so among respondents who are currently engaging in sufficient levels of physical activity (68%) as well as Engaged (76%), and significantly less among obese respondents (45%) and Deniers (36%). Food and nutrition was discussed with friends and family by 54% of respondents, with significantly higher likelihood among females (61%), Engaged (75%), respondents ages 25 to 34 years (59%), and significantly less by obese respondents (44%) and Deniers (34%). Weight was discussed with family and friends by around half of all respondents (49%), significantly more by females (53%), Committed (61%), Engaged (60%), and respondents aged 25 to 34 years (56%). It was discussed significantly less so among Deniers with 34% claiming to have never spoken about weight with friends and family.

Figure 10.3.1: Incidence of talking to family and friends about health related topics

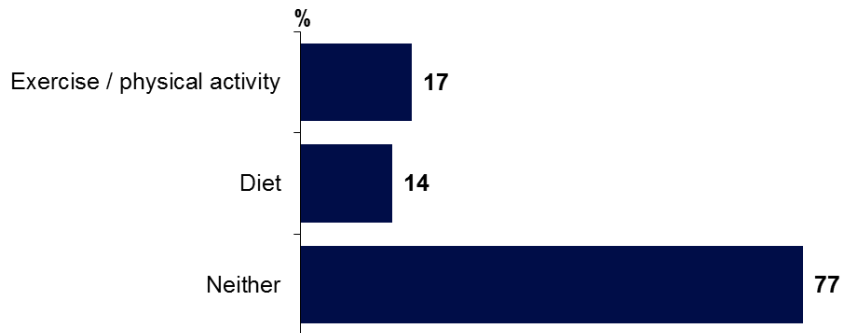


SOURCE: G16: How often do you talk to friends and family about...?
BASE: All respondents (n=3150)

Health professionals/GPs: Nearly one quarter of respondents (23%) have consulted with a health professional in the past twelve months about exercise/physical activity (17%) or diet (14%). There were a number of cohorts who were significantly more likely to have consulted with their health professional including obese respondents (28%), respondents aged 25 to 34 years (30%), respondents with a household income of \$60-100k (27%) and Aboriginal and Torres Strait Islander respondents (64%).

Several qualitative participants in the ‘unhealthy’ weight range mentioned their GP specifically as a potential source of information. Some noted that the GP would generally provide information of which they were already aware, though hearing it from a doctor (particularly if it was contextualised around their personal health risks) could be motivating, and certainly credible and trustworthy.

Figure 10.3.2: Consulted with a health professional in the past twelve months

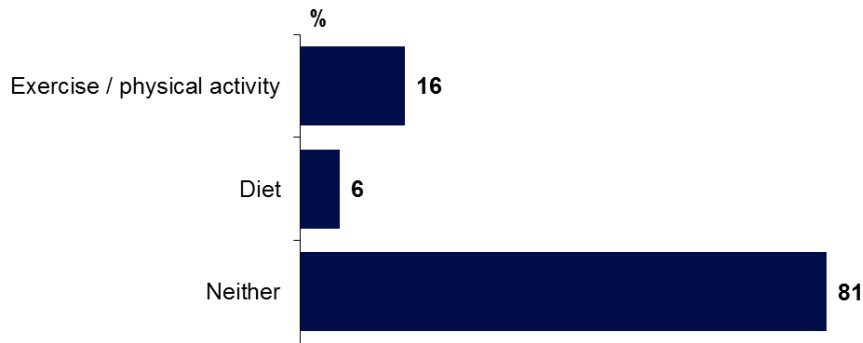


SOURCE: G14: Have you consulted a health professional in the last twelve months about either of the following?
BASE: All respondents (n=3150)

Dietitians and other lifestyle advisers: Nearly one in five respondents (19%) have consulted with a personal or physical trainer in the past twelve months, with significantly higher incidence among those of a normal weight (22%), respondents living in capital cities (22%), those aged 25 to 34 years (28%), those on a household income of either \$60-100k (23%) or more than \$150k (24%), and Aboriginal and Torres Strait Islander respondents (65%). The Denial segment was significantly less likely to have consulted a personal or physical trainer (14%).

Those qualitative participants who were very engaged with the topic often went to dietitians and other lifestyle advisers (naturopaths, personal trainers) to seek out **personalised** advice. This was considered more useful than other sources by virtue of being customised and tailored to the individual. Some in the study had made significant changes to their lifestyle after seeking this professional advice. The financial investment required to obtain this advice also appeared to increase the likelihood that it would be taken on board.

Figure 10.3.3: Consulted with a personal or physical trainer in the past twelve months



SOURCE: G15: Have you consulted a personal trainer or physical trainer in the last twelve months about either of the following?
BASE: All respondents (n=3150)

Work: Workplace health and wellness programs were mentioned by a minority of participants across the qualitative research, but appeared to have a positive impact on those who had access to them, by not only providing expert advice around nutrition and exercise, but also by facilitating healthy behaviours through the workday (run clubs, planking challenges, serving fruit in the office etc.).

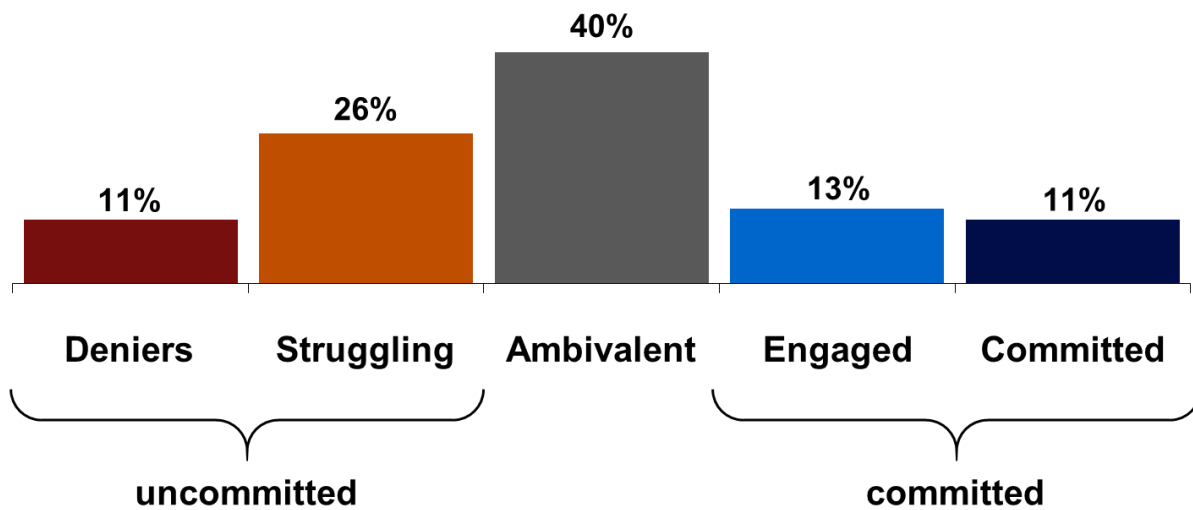
11. Segmenting the population

As outlined in Section 6, commitment segmentation was undertaken resulting in five commitment based segments as follows:

- **Committed:** 11% of Australians were found to be in the Committed segment. These respondents have the strongest commitment (consciously and unconsciously) and are most likely to role-model the desired behaviours (dietary and physical active), and seek to influence change among those around them.
- **Engaged:** Over one in ten (13%) of respondents are Engaged. These individuals are strongly committed to the correct behaviour, however, they are unlikely to actively seek to influence others – unless inspired to do so.
- **Ambivalent:** The largest segment was found to be Ambivalent, with 40% falling into this category. These individuals have a desire to do the 'right' behaviour, but are strongly influenced by external sources.
- **Struggling:** The second highest segment, with 26% of the sample is Struggling. These individuals are strongly conflicted in their behaviour and while they may not 'actively' want to exhibit undesired behaviours, their unconscious attitudes serve as barriers.
- **Deniers:** 11% of respondents were found to be in the Denial segment, refusing to acknowledge the behaviour (eating healthy and being physically active) is something that should be taken seriously for them personally. They are the most likely to be exhibiting the undesirable behaviour.

In the standard commitment model, there is a sixth segment that was not identified in this research, **Difficult**. This segment knowingly exhibits the undesirable behaviour and is actively resistant to change. No respondents fall into this segment suggesting uncertainty or ambivalence to a healthy lifestyle rather than outright rejection or opposition to the topic.

Figure 11.1: Distribution of commitment segments



SOURCE: CM1: Thinking about each of the things listed below, how often would you do them, where 0 is never and 10 is always?
CM2: How do you anticipate consistently doing this would make you feel?
CM3: And, when you think about doing this all the time, how challenging would this be for you to do?
CM4: When you consider doing this consistently every day, what do you think ...?
CM5: When you think about all the things that matter to you in your life, where do you place 'eating healthy and being physically active'?
BASE: All respondents (n=3150)

Details of the five healthy lifestyle overarching segment profiles, which include demographic, behavioural and attitudinal/psychographic attributes, are outlined below. These have been used to identify influences within key segments that could drive commitment to change (towards the next behavioural segment more committed to health behaviours).

11.1 Committed (11% of Australian adults)

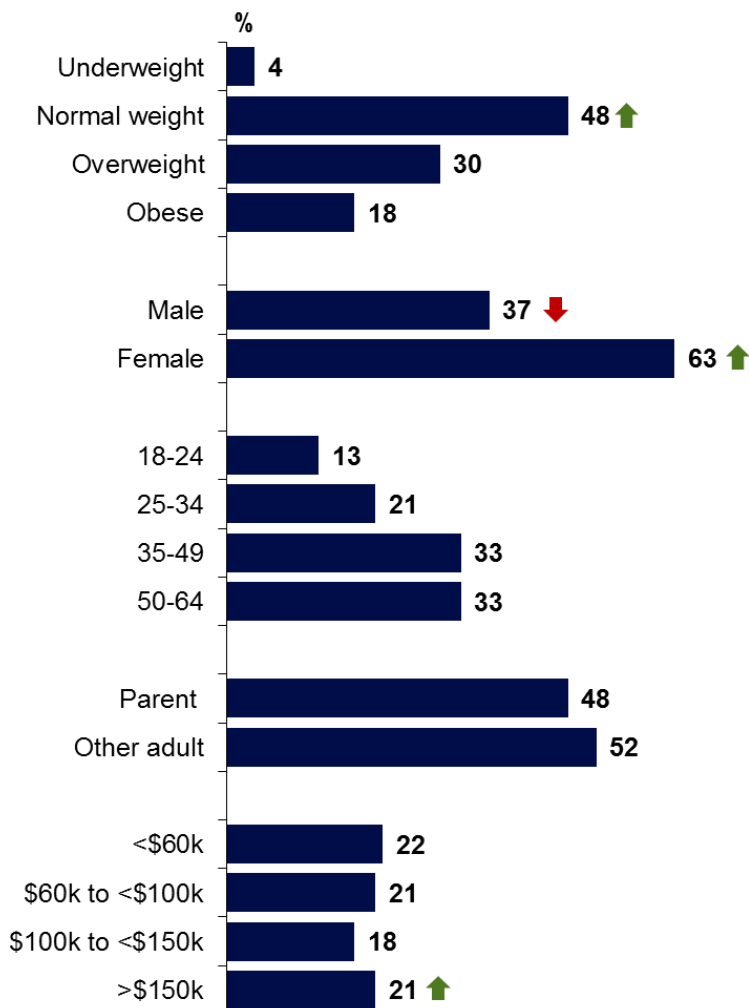
Committed have the highest proportion of females and high household income respondents. They are more likely to be normal weight and have greater responsibility when it comes to shopping, preparing and planning of meals. They believe having a healthy lifestyle is important and are the least likely to consume discretionary food. They describe themselves as organised and routine driven.

11.1.1 Demographics

Committed have the highest proportion of females (63%) and high household income Australians (21% earning \$150K+). They are undifferentiated by age but describe themselves as an organised person (92%), and believe having a healthy lifestyle is important (100%).

They are significantly more likely to be normal weight (48%), contain the lowest proportion of overweight individuals among all segments (30%), and fewer obese people (18%).

Figure 11.1.1.1: Demographics – Committed



SOURCE: E1: How much do you weigh? E2: How tall are you? S3: Are you male or female? S4: How old are you? S5: Which of the following best describes your household situation? H4: Which of the following best describes your household's approximate income?
 BASE: Committed segment (n=339)

NOTE: The downward pointing red and upward pointing green arrows indicate a significant difference at the 95% confidence interval against the total survey population.

11.1.2 Behaviour

This segment has the highest proportion doing a sufficient amount of physical activity (58%), and contains fewer in the insufficient range (31%). Committed believe you should be being physically active 6-7 days a week. This segment was more likely to believe they had engaged in a healthy amount of physical activity last week (65%), while around three quarters (76%) describe their level of physical activity over the last year as 'healthy'.

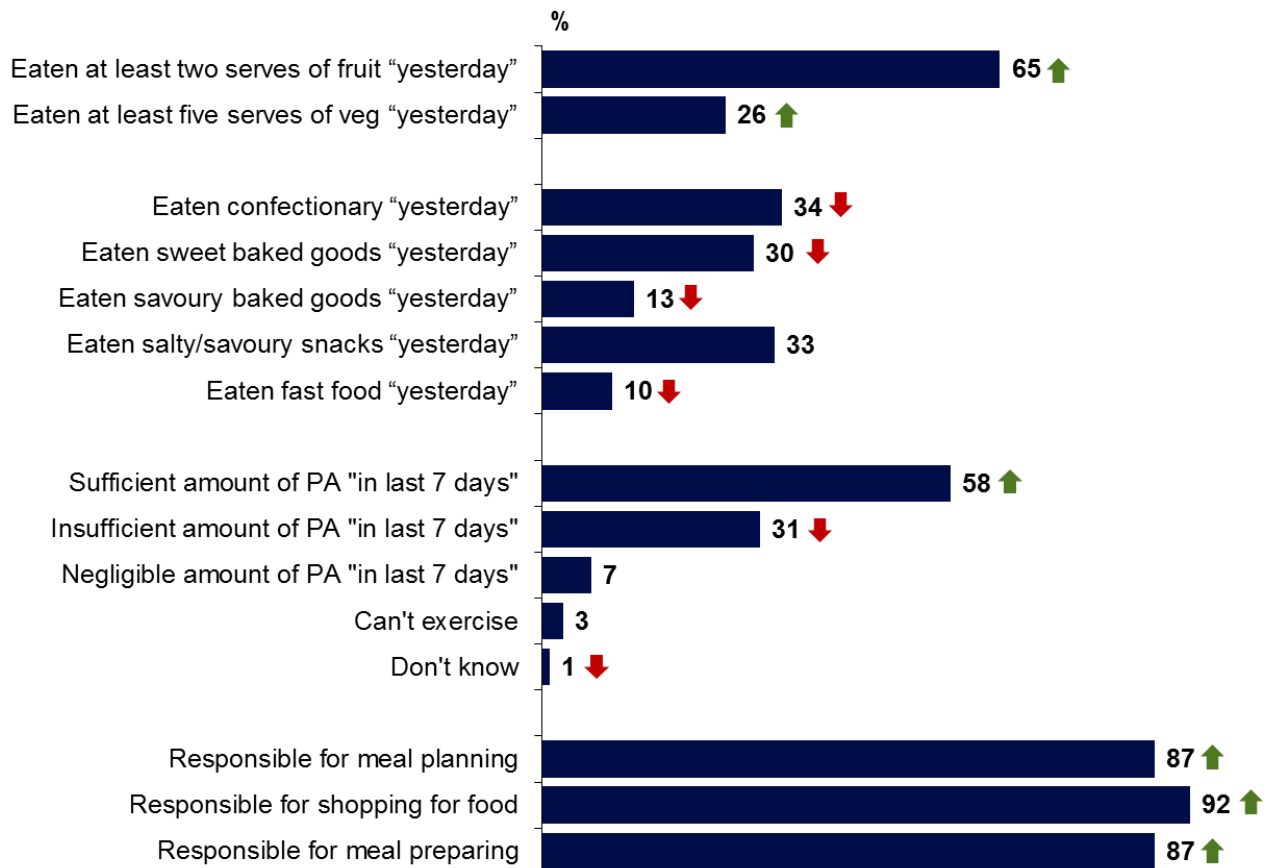
Committed are likely to eat on or above the Australian Dietary Guidelines recommended number of serves for fruit (65%) and vegetables (26%), with the mean serves of fruit consumed yesterday 1.5 and serves of vegetables 3.4. They are consuming the highest amount of vegetables out of all segments, and are only eating slightly less fruit than Engaged.

Committed are the lowest consumers of all discretionary food, with the segment eating significantly fewer confectionary, snacks, and fast food 'yesterday' and 'in the last seven days'. They also appear to have the highest will power, with Committed significantly more likely to never purchase sugary or salty snacks either on impulse (13%) or planned in advance (16%). This aligns with the high proportion of this segment (85%) that indicated they have had a good diet over the last year – significantly higher than the average.

Committed have significantly greater responsibility (and therefore control) when it comes to shopping (92%), food preparing (87%), and planning of meals (87%). Committed are significantly less likely to state that their partners influence what is eaten at meal times (only 24%), which is likely driven by the relatively large portion of females in this segment. They are more likely to be planners, with the segment always or most of the time: creating rough meal plans (53%), including vegetables in meal planning (92%), making shopping lists (77%), and including healthy snack options in their shopping (72%).

They are the most likely segment to have a 'way of eating' (60%), including predominately: low fat (26%), clean eating (20%), low carb (20%), sugar free (22%), vegetarian (15%), and vegan (5%) diets. They are more likely to rarely or never: "feel uncomfortable full following a meal" (52%), "finish everything on their plate even when full" (29%), or "eat a bigger size meal than needed" (35%).

Figure 11.1.2.1: Behaviour - Committed



SOURCE: B2: Now thinking about vegetables, including fresh, dried, frozen, or tinned vegetables, and thinking just about yesterday can you tell me how many serves of vegetables you ate? B1: Thinking about eating fruit, including fresh, dried, frozen or tinned fruit, and thinking just about yesterday can you tell me how many serves of fruit you ate? B4: Still thinking about yesterday, which of the foods and drinks listed below did you consume? D1: Thinking about the last seven days, on how many days did you do a total of 30 minutes or more of physical activity, which was enough to raise your breathing rate? D2. What do you estimate was the total time that you spent over the last seven days being active in a way that increased your breathing rate? B8a. Which of the following best describes your role in planning meals, shopping and cooking?

BASE: Committed segment (n=339)

NOTE: 'PA' refers to physical activity. The downward pointing red arrows and upward pointing green arrows indicate a significant difference at the 95% confidence interval against the total survey population.

11.1.3 Attitudes – diet

Committed have the highest levels of self-efficacy believing they have the ideas, information, and skills to cook or shop for healthy meals. They have a significantly higher level of agreement on all efficacy statements against the average and recorded the highest levels of agreement to: "I feel I have the ideas to cook healthy meals" (89%), "I feel I have the right information to cook healthy meals" (89%), "I feel I have the skills and ideas to shop for and cook healthy meals" (87%), "I find it easy to cook healthy meals" (87%), and "I have the time to shop for healthy meals" (84%).

This segment also appears to have better nutritional knowledge, with a significantly lower level of agreement that: "There is so much information about what is healthy food that I get confused" (34%) and higher agreement on: "I find nutrition labels on food easy to understand" (61%).

They have the lowest levels of perceived cost associated with a healthy diet of all segments, with the majority believing that they have enough time to think about their diet and are not put off by monetary, waste or time costs that are associated with preparing or planning healthy meals (including fruit and vegetables). This segment clearly enjoys the consumption of healthy food and does not find eating vegetables 'boring'.

Committed are also the least likely segment to be influenced by heuristics and setting. They have high will power, with few purchasing unhealthy snacks either on impulse or when planned in advance, and are able to resist unhealthy food even if they love the taste of it. Level of agreement is significantly lower for: "I can't help myself buying a chocolate or unhealthy snack at the checkout" (19%), "I can't help myself eating chocolates or unhealthy snacks at work" (24%), and "I often choose unhealthy food because I love the taste of it and just can't resist" (31%). Committed are more likely to agree that if they snack, it's usually fruit (47%).

Committed who are parents are more likely to believe that they have a great influence on setting up healthy eating habits for their children, are trying to be a good role model and had become more health conscious once having children. They are also less likely to be influenced by children that are fussy eaters.

Habit and routine is a key differentiator for this segment. They are more likely to agree that "Having a good routine in your life helps you to eat more healthy foods" (96%) – which is not surprisingly given the segment's profile, as also less likely to agree that "I snack too much when I'm bored" (43%).

11.1.4 Attitudes – physical activity

Committed view physical activity as highly beneficial to their health and wellbeing (agreeing that they think better, sleep better and feel good as a result). They have high response efficacy, evidenced by their low agreement on: "It really doesn't make much difference to my long term health if I'm physically active or not" (6%), "It really doesn't make much difference to my immediate health if I'm physically active or not" (8%), and high agreement on: "I think better after I have done some exercise" (88%), "I sleep better after I have done some exercise" (88%), "I feel good about myself after I have done some exercise" (94%).

They are the segment that least agrees that "they only exercise when trying to lose weight" (17%) and "I think it's okay to not eat healthy as long as you exercise" (13%). There are lower perceived costs for this segment with significantly lower agreement that "It's too expensive to join a gym/organised sport etc." (56%) and "I don't have enough time to exercise" (28%). They were also significantly less likely to agree that "There's just no sort of physical activity I like doing" (16%).

There is high self-efficacy among the segment when it comes to physical activity. They have high agreement that they can accomplish exercise and are less likely to feel embarrassed being physically active in public, unwelcome at gym/fitness centres, or uncomfortable in exercise clothes.

This segment has a higher level of mobility and capability than other segments, with low levels of agreement that "Going for a gentle walk is all the exercise I can manage" (25%).

They are actively conscious of physical activity, with the lowest agreement on "Being active is something I just don't think about" (20%).

Committed who are parents are significantly more likely to believe that they have a big influence on how physically active their child is, and are attempting to be role models to them. They also try to encourage their children to be active every day and spend time being active with them.

11.1.5 Information sources and influence of social media

Committed are the most likely segment to seek out and use information on health, food, and physical activity. They are the segment to have the greatest amount of conversations about food nutrition, exercise, and weight. It is a clear driver of their continuous commitment towards a healthy lifestyle and is part of their daily activity.

Social media is a key source of information for this segment, as the individuals seek out groups, people, or pages to look for ideas to improve their overall health or add to their repertoire/skill set. Committed are significantly more likely to have higher recall of posts or status updates from friends on food and exercise/physical activity. They are also the most likely segment to take action from the content they view, with a third regularly cooking a meal/recipe, and a fifth trying a new exercise/type of physical activity as a result of seeing something in their feed. Committed have the highest usage of Instagram with over a quarter (26%) using the platform daily, so it is likely that this is the platform where a lot of the following and action taken is occurring from.

Other online sources are also important for Committed with internet searches used 90% of the time when wanting to find a recipe, and subscriptions to group emails that send information about healthy food and exercise/physical activity regularly read.

A quarter (25%) of the segment also regularly picks up the free supermarket recipe magazine whilst shopping and are the most likely segment to take advantage of the magazine as a source of information, using it to regularly cook recipes (15%) and gain ideas for recipes (23%).

This segment also takes advantage of recipes in newspaper lift outs or other magazines, regularly using them to cook one of the recipes (15%), or using them for ideas (19%).

Committed are significantly more likely to use technology to aid them in their health journey, with 30% regularly using an app or device that tracks food and/or exercise.

Committed were significantly more likely to watch cooking/kitchen shows MasterChef (49%), Jaimie Oliver (35%), and Michael Mosely (12%).

11.2 Engaged (13% of Australian adults)

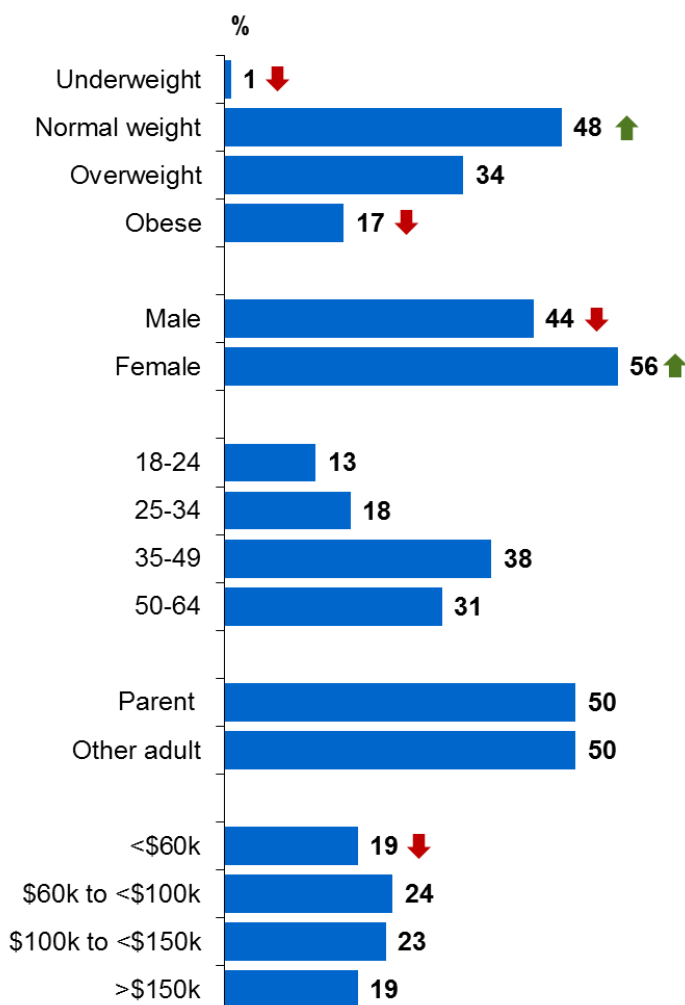
Engaged are more likely to be females, mid to high household income, and university educated. A high proportion has a 'way of eating' and believes having a healthy lifestyle is important. Fewer obese respondents reside in this segment with a higher proportion being normal weight. This segment is more likely to engage and follow social media content about diet/physical activity.

11.2.1 Demographics

Engaged are significantly more likely to be females (56%) than males (44%). They have a higher proportion of those who have mid to high household income, and have the highest proportion of those who are university educated (51%). There is a slight trend towards those aged 35-49 year olds (38%), however all believe having a healthy lifestyle is important (100%).

The fewest obese respondents (17%) reside in this segment with a higher incidence of normal weight (48%). This segment is also likely to describe themselves as an organised person (92%) and follows social media content about diet/physical activity.

Figure 11.2.1.1: Demographics – Engaged



SOURCE: E1: How much do you weigh? E2: How tall are you? S3: Are you male or female? S4: How old are you? S5: Which of the following best describes your household situation? H4: Which of the following best describes your household's approximate income? BASE: Engaged segment (n=425)

NOTE: The downward pointing red and upward pointing green arrows indicate a significant difference at the 95% confidence interval against the total survey population.

11.2.2 Behaviour

Engaged respondents are significantly more likely than the average to be doing a sufficient amount of physical activity, with over half (56%) achieving the recommended guideline. As a result fewer are in the insufficient (31%), or negligible range (8%).

Over half (52%), perceived the amount of physical activity you should be doing as over 150 minutes, more than guidelines however close to three quarters (74%) still described their level of physical activity over the last year as healthy.

This segment is likely to eat on or above the Australian Dietary Guidelines recommended number of serves for fruit (66%) and vegetables (17%), with the mean consumption 'yesterday' 2.2 and 3 respectively. Committed consume the greatest proportion of fruit out of all segments, and the second largest amount of vegetables (after Committed).

This segment is less likely (when compared to the average) to be consuming confectionary and fast food products with 41% and 14% consuming 'yesterday'. This consumption pattern occurs regularly with 61% answering that they had eaten no fast food over the last week. They are however, significantly more likely to consume alcohol (37%) and 16% had eaten sweet snacks 6-7 days over the last week – a significantly greater proportion to the total and a key differentiator to Committed. Although some discretionary foods are still consumed, a high proportion (88%) indicated having a good diet over the last year – significantly higher than the average, and the greatest among all segments.

Over half have a 'way of eating' (51%), including: low fat (23%), low carb (17%), sugar free (17%), vegetarian (12%), gluten free (9%), and paleo (5%). Their 'way of eating' differentiates them from Committed as they are more 'on trend' and includes a significantly higher proportion of the 'fad' diets – which is a clear influence from their high readership on social media.

They are more likely to rarely or never: "eat too much food in one sitting" (39%), "feel uncomfortable full following a meal" (53%), or "eat when not hungry" (50%).

Engaged are also likely to be planners, however to a lesser extent than Committed. They always or most of the time: "create rough meal plan for the week" (48%), "include vegetables in meal planning" (89%), and "make a shopping list" (75%).

Figure 11.2.2.1: Behaviour – Engaged



SOURCE: B2: Now thinking about vegetables, including fresh, dried, frozen, or tinned vegetables, and thinking just about yesterday can you tell me how many serves of vegetables you ate? B1: Thinking about eating fruit, including fresh, dried, frozen or tinned fruit, and thinking just about yesterday can you tell me how many serves of fruit you ate? B4: Still thinking about yesterday, which of the foods and drinks listed below did you consume? D1: Thinking about the last seven days, on how many days did you do a total of 30 minutes or more of physical activity, which was enough to raise your breathing rate? D2. What do you estimate was the total time that you spent over the last seven days being active in a way that increased your breathing rate? B8a. Which of the following best describes your role in planning meals, shopping and cooking ...?

BASE: Engaged segment (n=425)

NOTE: 'PA' refers to physical activity. The downward pointing red and upward pointing green arrows indicate a significant difference at the 95% confidence interval against the total survey population.

11.2.3 Attitudes – diet

Engaged have a high level of self-efficacy, believing they have the right information (89%), skills and ideas (87%), and time (83%) to shop and cook healthy meals. They are likely to find it easy to cook healthy meals (85%) and have good dietary knowledge and understand nutrition labels.

There are fewer costs of eating healthy perceived by this segment. They enjoy eating healthy food with lower levels of agreement that: "Vegetables are boring to eat" (22%), and "I don't enjoy eating healthy foods" (16%).

They also do not let cost, time or waste get in the way of healthy consumption, with low levels of agreement that: "The cost of healthy food can put me off buying it" (45%), "I would eat more vegetables if it didn't take so long to prepare them" (27%), and "I don't buy fruit and vegetables as much because I end up throwing too much out" (24%).

Engaged are less influenced than most of the other segments by external factors such as setting, friends and peers, events, specials and promotions/advertising. They appear to have a moderate level of will, with moderate agreement on “I find myself eating more than I planned when there are specials or value deals on the meals when I’m eating out” (37%), “I can’t help myself eating chocolates or unhealthy snacks at work” (25%), and “I can’t help myself buying a chocolate or unhealthy snack at the checkout” (24%).

This segment is more likely to agree that “Having a good routine in your life helps you to eat more healthy foods” (93%). They are also actively engaged in their diet/health needs, with significantly lower agreement on “I don’t really pay much attention to what I eat” (17%).

Engaged who are parents believe it is important to create good habits for their children, and try to set a good example for them. They are the least likely to agree that “It’s more important that my children eat healthy than that I eat healthy” (52%).

11.2.4 Attitudes – physical activity

Participating in physical exercise is viewed as highly beneficial by Engaged, particularly for immediate and long term health – with low agreement on: “It really doesn’t make much difference to my long term health if I’m physically active or not” (10%), and “It really doesn’t make much difference to my immediate health if I’m physically active or not” (14%). They are also more likely to recognise the health and wellbeing benefits achieved from being physically active.

There are few costs evident for this segment, with low agreement that “it’s too expensive to join a gym/organised sport etc.”, “I don’t have enough time to exercise”, and “I have to travel too far to exercise”.

This segment contains a higher proportion of those who enjoy (69%) and find it easier (64%) to exercise with friends or a team – this social dynamic of the segment would be important for messaging therefore, and is a differentiator from Committed.

Engaged like Committed are less likely than the other segments to agree that they feel embarrassed and uncomfortable being physically active, or feel unwelcome in gyms/fitness centres. This may be due to the profile of the segment containing a high proportion of those who are normal weight (48%), as opposed to overweight (34%) or obese (17%).

This segment has the strongest view on what ‘counts’ as physical activity, with a high proportion agreeing that you need to be puffing and sweating (51%), and are less likely to believe you should only exercise when trying to lose weight (21%). They also believe you should be doing a range of physical activity, and less likely to agree that “Going for a gentle walk is all the exercise I can manage” or “Being active is something I just don’t think about”.

Engaged parents believe they have a big influence on how physically active their children are, try to encourage them, set a good example, and spend time playing with them.

11.2.5 Information sources and influence of social media

Engaged have a high level of usage of social media, and are significantly more likely to use alternative social media sites Pinterest, Google+, and Tumblr on a daily basis than any other segment. Like Committed, Engaged are conscious of social media posts, particularly those on food – rather than exercise or physical activity. They actively follow groups, people, and pages on food preparation/recipes, exercise/physical activity, and healthy lifestyles – significantly more so than other segments but to a slightly lesser extent than the Committed.

Engaged will regularly use the sites they follow to prepare a meal, and occasionally to try out a new exercise. Following these pages or people is seen as more of a source of inspiration for Engaged. They find the posts entertaining to read, useful, trustworthy, and motivating. Although Engaged are less likely to take action on social media content that they are exposed to, when it comes to searching out information (such as finding a recipe online), they are the most likely segment to look at social media for inspiration. Engaged contained the highest proportion of those who had purchased or downloaded an app or device but have not actually used it. Again, the intention from this segment is evident but they are not yet at the highest committed levels that are seen for Committed. A quarter (26%) regularly pick up the free supermarket recipe magazine whilst shopping, however only a quarter of those (26%) actually read it and even fewer use it for ideas (19%) or to cook (11%). A similar trend can be seen with the recipe lift outs in newspapers or other magazines, with a significantly greater proportion than the average reading them, however not using them for ideas or to cook from, as readily as Committed.

My Kitchen Rules (MKR) received the greatest proportion of viewers among this segment (39%), while Better Homes and Gardens also received a significantly higher proportion (33%).

11.3 Ambivalent (40% of Australian adults)

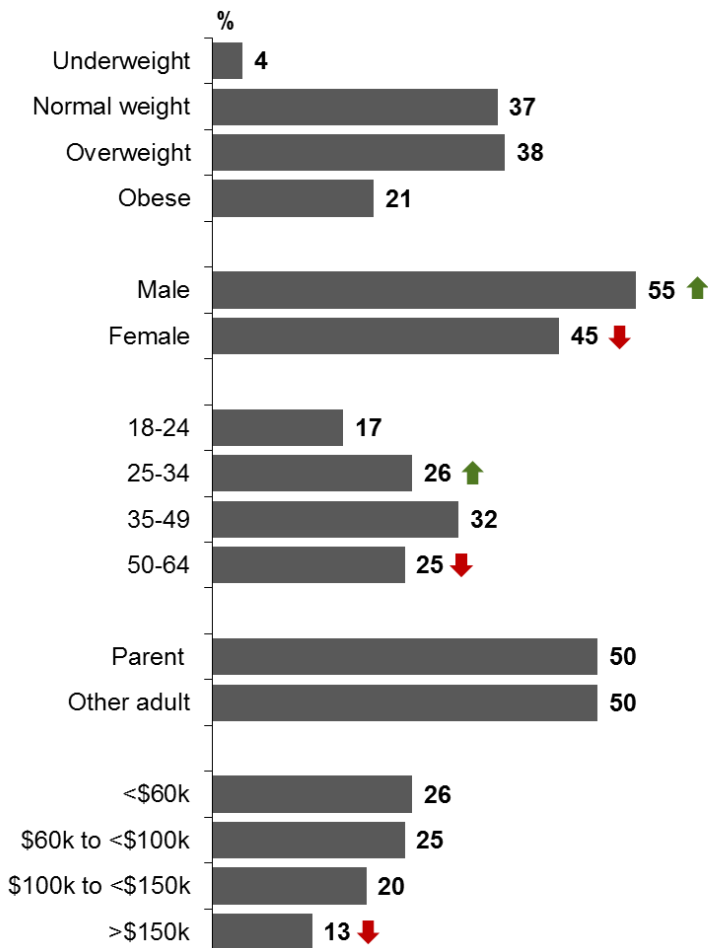
Ambivalent are more likely to be males aged 25-34 years old. They have low to middle household income, slightly skewed to regional and have the largest proportion of Aboriginal and Torres Strait Islander respondents. This segment consumes the most discretionary food and believes that having a healthy lifestyle is 'not that important'.

11.3.1 Demographics

Ambivalent contain a significantly greater proportion of males (55%) than females (45%). They are more likely to have mid to low household income, and contain significantly fewer Australians with high household income (13% \$150K+).

This segment is likely to be younger respondents aged 18-34 (43%), significantly so for those aged between 25-34 years old (26%), and are therefore significantly less likely to be those aged 50-64 years (25%). Skewed to overweight (38%) and regional population, this segment also has the largest proportion of the Aboriginal and Torres Strait Islander population compared to other segments (6%). As a key differentiation, Ambivalent are significantly less likely to believe having a healthy lifestyle was important (71%).

Figure 11.3.1.1: Demographics – Ambivalent



SOURCE: E1: How much do you weigh? E2: How tall are you? S3: Are you male or female? S4: How old are you? S5: Which of the following best describes your household situation? H4. Which of the following best describes your household's approximate income?
 BASE: Ambivalent segment (n=1216)

NOTE: The downward pointing red and upward pointing green arrows indicate a significant difference at the 95% confidence interval against the total survey population.

11.3.2 Behaviour

Ambivalent contain the highest proportion doing insufficient physical activity, with close to half (48%) not achieving the recommended amount of physical activity. They therefore contain significantly fewer achieving a sufficient amount, with the equal lowest portion (36%). Over half (56%) however still described their level of physical activity over the last year as healthy. This is likely due to their incorrect perception regarding the amount of sufficient physical activity required for health, with a quarter (24%) of the opinion that less than 90 minutes in a week is sufficient, and that you should be exercising 1-3 days a week.

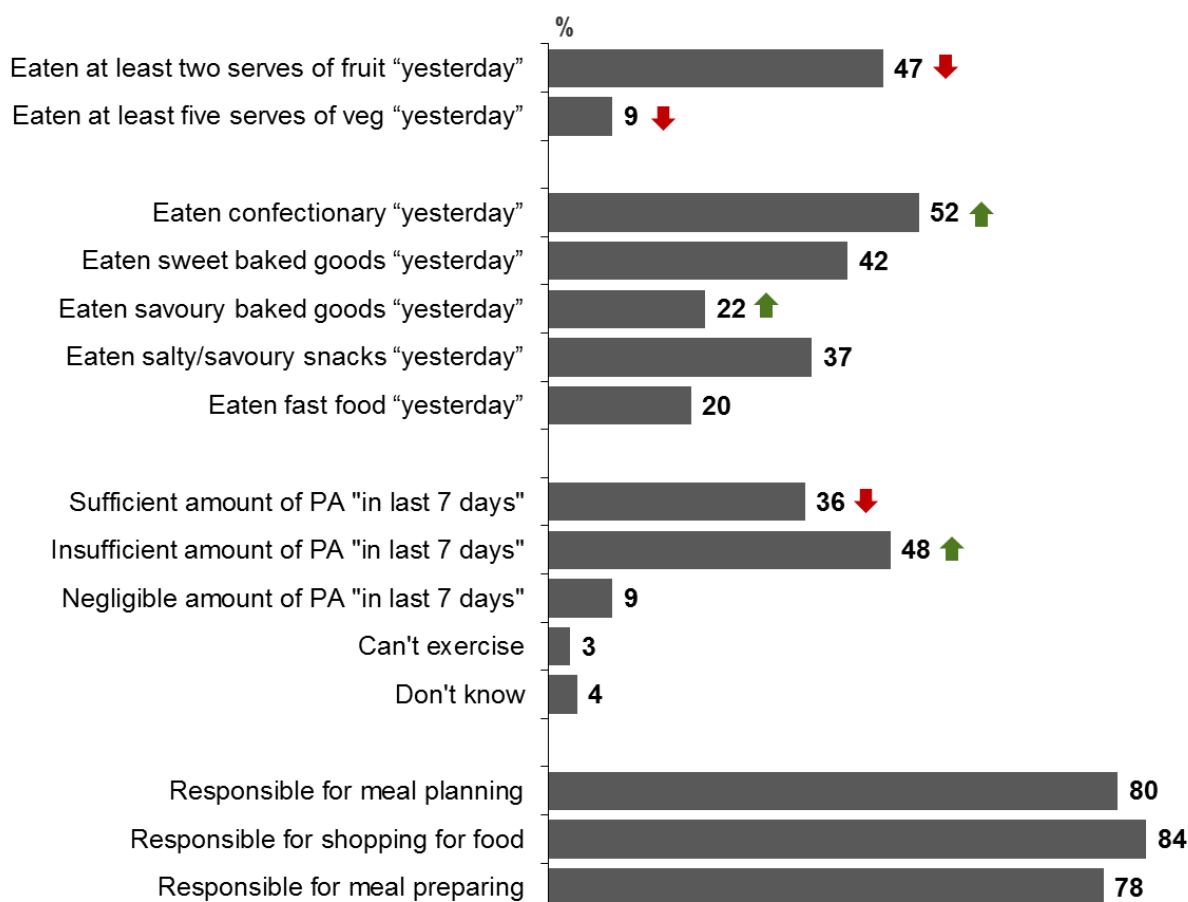
Consumption of the recommended serves for both fruit and vegetables is significantly lower when compared to other segments and to the total population. 47% of Ambivalent consumed at least 2 serves of fruit 'yesterday' and only 9% consumed at least the recommended 5 serves of vegetables. They were more likely to not know how much fruit (15%) or vegetables (14%) they ate yesterday. Mean serves consumed were 1.7 fruit and 2.4 vegetables.

This segment was significantly more likely to consume confectionary food (52% consuming yesterday), savoury baked goods (22%), fizzy sugar sweetened drinks (30%), and fizzy artificially sweetened drinks (22%). Consumption among this segment is higher than average, with significantly greater proportions consuming discretionary food 4-5 days over a weekly period. This includes consuming fast food (14%), eaten sweet snacks (25%), and salty snacks (19%). Even with high discretionary and low fruit and vegetable intake, two thirds (69%) believed they had a healthy diet over the past year.

Ambivalent are less likely than the average to be engaged in a particular 'way of eating', with only 35% following some type of diet. However, those who are having lactose free or low carb diets are doing so based on medical advice, significantly higher than the average.

They are undifferentiated by overeating behaviours, with average levels for each of the listed behaviours.

Figure 11.3.2.1: Behaviour – Ambivalent



SOURCE: B2: Now thinking about vegetables, including fresh, dried, frozen, or tinned vegetables, and thinking just about yesterday can you tell me how many serves of vegetables you ate? B1: Thinking about eating fruit, including fresh, dried, frozen or tinned fruit, and thinking just about yesterday can you tell me how many serves of fruit you ate? B4: Still thinking about yesterday, which of the foods and drinks listed below did you consume? D1: Thinking about the last seven days, on how many days did you do a total of 30 minutes or more of physical activity, which was enough to raise your breathing rate? D2: What do you estimate was the total time that you spent over the last seven days being active in a way that increased your breathing rate? B8a. Which of the following best describes your role in planning meals, shopping and cooking ...?

BASE: Ambivalent segment (n=1216)

NOTE: 'PA' refers to physical activity. The downward pointing red and upward pointing green arrows indicate a significant difference at the 95% confidence interval against the total survey population.

11.3.3 Attitudes – diet

Ambivalent are the second lowest segment when it comes to self-efficacy (Deniers the least). Ambivalent feel they lack the time to cook/prepare and shop for healthy meals. They also have lower self-efficacy finding it somewhat difficult to cook healthy meals, not possessing all of the skills required. They are significantly less likely to agree: "I have the time to cook/prepare healthy meals" (60%), "I have the time to shop for healthy meals" (61%), "I find it easy to cook healthy meals" (61%), "I have the ideas to cook healthy meals" (64%), "I have the skills and ideas to shop for and cook healthy meals" (66%), and "I have the right information to cook healthy meals" (67%).

This segment has the highest levels of agreement on the perceived costs of their diet as a barrier for consuming more healthy food: "I often just don't have the energy to shop for and cook healthy meals" (38%), and "I don't have time to think about my diet" (29%). They are the segment who is more likely to consider time and energy costs involved in healthy eating: "I don't buy fruit and vegetables as much as I should because I end up throwing too much out" (41%), and "I don't have time to think about my diet" (29%).

They love the taste of unhealthy food and do not enjoy eating healthy foods, finding vegetables boring to eat. However, 60% wish they could improve their diet, the second highest of all segments (after Struggling) and there was also significantly high agreement (second largest) that they do not pay attention to what they eat (34%).

'Ambivalent' are the most likely to be influenced by their setting, finding they often eat chocolate or unhealthy snacks at work (38%), or purchase them at the checkout (33%). They are also tempted by unhealthy food advertisements (37%).

They are significantly less likely (when compared to the average and to all segments excluding Deniers) to believe having a routine helps them eat more healthy food (70%), and less likely to believe they should be eating smaller meals (55%).

Also, surprisingly, they are the highest to agree out of all segments that if they snack between meals it usually includes vegetables (27% compared to an average of 24%). The opposite trend is seen for fruit, with the Ambivalent segment less likely to snack on fruit than other segments (31% compared to 35% average).

Although the majority agree, Ambivalent who are parents are significantly less likely (when compared to the average and to all segments excluding Deniers) to believe that parents have a big influence on setting healthy eating habits for children (84%), and that they try to set a good example by eating healthy themselves (73%).

11.3.4 Attitudes – physical activity

Ambivalent are also less likely to recognise the benefits of doing physical activity, and are the most likely of all segments to believe that immediate and long term health will not be affected by how physically active they are.

They are unlikely to acknowledge the benefits of doing physical activity, with lower levels of agreement on: "After a busy or stressful day it feels good to have a workout" (48%), "I think better after I have done some exercise" (57%), "I sleep better after I have done some exercise" (63%), and "I feel good about myself after I have done some exercise" (71%).

They are also likely to perceive time costs as a barrier to physical activity (which may be driven by the light skew to regional), as well as indicating little enjoyment in any sort of physical activity: "I have to travel too far to exercise" (24%), and "I don't like getting all sweaty" (35%). They have the highest agreement among all segment that "there's just no sort of physical activity I like doing" (33%).

Ambivalent lack the confidence to exercise and have low self-efficacy for physical activity, with the highest levels of agreement that they "feel uncomfortable in exercise clothes" (34%) and that "gyms/fitness centres are not welcoming" (26%). They are significantly less likely (when compared to the average and against all segments excluding Deniers) to believe that "adding 30 minutes of activity is something they could try and do" (69%).

There are some concerning attitudes among this segment, with a higher proportion of respondents who believe: "they do not need to regularly exercise because they are active enough in everyday life" (27%), think "it's okay to not eat healthy as long as you exercise" (26%), and "only exercise when trying to lose weight" (32%).

They are less likely to believe you should be doing various types of physical activity (second lowest segment after Deniers), but had the highest level of agreement to "Going for a gentle walk is all the exercise I can manage" (42%).

Ambivalent who are parents, are less likely (as per diet) to believe they have a big influence on how physically active their children are (77%), encourage their kids to be active every day (70%), and try and set a good example of being physically active for their kids (63%).

11.3.5 Information sources and influence of social media

Ambivalent are less likely than most other segments (excluding Deniers) to be aware of posts on food and exercise/physical activity. It is clearly not something that is on this segments radar or that they have an interesting in 'following', as their social media usage is not driving the lower levels engagement in content. Even for those who are exposed to the content (on food/exercise), over half (52%) agree that they do not pay much attention to who is posting. This lack of interest in online content is further evident by a fifth (19%) of Ambivalent claiming they would not look online (internet search, social media, or app) to find a recipe.

Ambivalent are also significantly less likely to pick up the free supermarket recipe magazines, with nearly a third (30%) reporting that they had never done this, and a further quarter (24%) saying that they rarely would do this. Even for those Ambivalent who had picked up the magazine, this segment had a significantly smaller proportion that actually read the booklet (12%), or use it for ideas (10%).

Similarly, they are also significantly less likely to read recipes in newspaper lift outs or other magazines (37% rarely or never) and for those who do – they are significantly less likely to use this as a source of information and actually cook one of the recipes.

Over a third (37%) of this segment claimed to not watch any television shows about cooking/kitchen or fitness, even when presenting with the list of options that included The Biggest Loser, Jamie Oliver and an option to select an 'other' television program. Ambivalent were also significantly less likely to have conversations with family and friends about food and nutrition, exercise, and weight.

There is a clear lack of interest amongst this segment in gaining information about diet and exercise. Ambivalent therefore are similar to Deniers, in that they are less engaged in using online, hard copy or visual sources of information on health, food, and exercise/physical activity.

11.4 Struggling (26% of Australian adults)

Struggling has the highest proportion of obese people and more aged 50-64 years. They are more likely to have high cholesterol or blood pressure and less able to exercise due to illness, injury or a disability. They are skewed very slightly toward females, higher household income, and metro respondents. They are not comfortable with their weight/body shape and would like to try and lose weight.

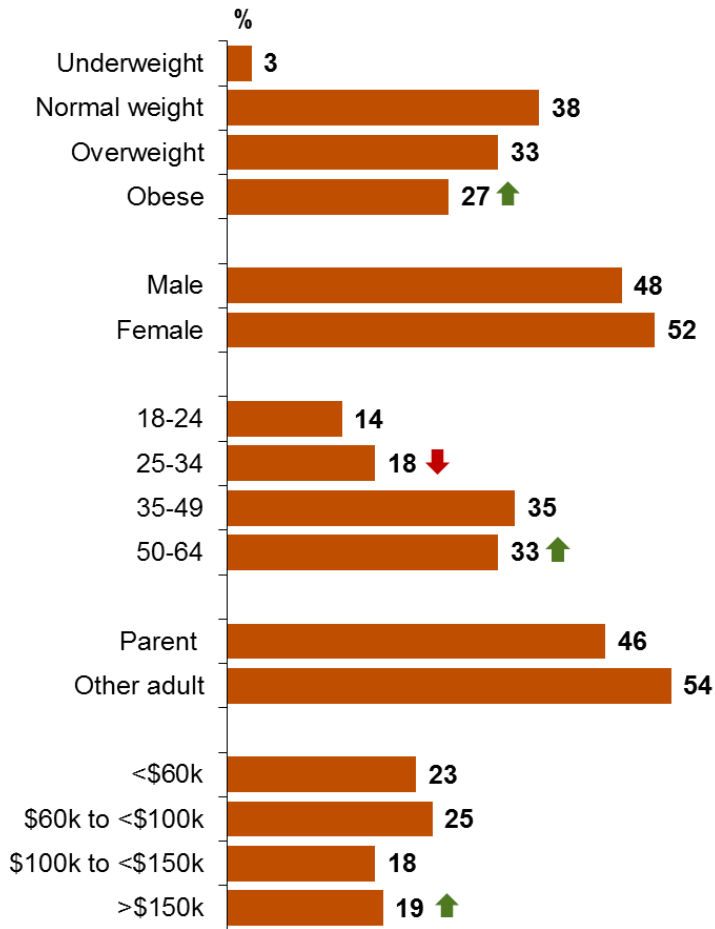
11.4.1 Demographics

Struggling contain minimal gender difference, with a very slight skew towards females. Household income is also not a key differentiator for this segment, although there are significantly more high household income respondents represented in the segment (19% on a household income of \$150k+).

Struggling have a significantly higher proportion of obese people (27%) and are more likely to believe having a healthy lifestyle is important (95%), however to a slightly lesser extent than Engaged and Ambivalent (both 100%).

This segment is more likely to be aged 50-64 years (33%) and significantly less likely to be 25-34 year olds (18%). They are more likely to have a medical condition (35%), particularly high cholesterol (15%), or high blood pressure (14%), and are less able to exercise due to illness, injury, or a disability (6%). Struggling contained a higher proportion of those who owned a dog but rarely or never walk/run with it (16%).

Figure 11.4.1.1: Demographics – Struggling



SOURCE: E1: How much do you weigh? E2: How tall are you? S3: Are you male or female? S4: How old are you? S5: Which of the following best describes your household situation? H4: Which of the following best describes your household's approximate income?
 BASE: Struggling segment (n=832)
 NOTE: The downward pointing red and upward pointing green arrows indicate a significant difference at the 95% confidence interval against the total survey population.

11.4.2 Behaviour

This segment contains the largest proportion of those who cannot exercise (6%), not surprising given their older age profile and higher incidence of medical conditions. Close to half (42%) of Struggling are achieving a sufficient amount of physical activity, which is a similar proportion of those achieving an insufficient amount (40%). This segment is however on the whole aware that they are not achieving a sufficient amount of physical activity with nearly half (49%) believing their frequency of exercise was not healthy and only 57% describing their level of physical activity over the last year as healthy.

Only half (50%) of Struggling are eating on or above the Australian Dietary Guidelines for 2 serves of fruit, with a mean of 1.8 serves. One in ten (9%) are consuming the recommended 5 serves of vegetables with 87% consuming below these guidelines. The mean serves of vegetables consumed yesterday was 2.5.

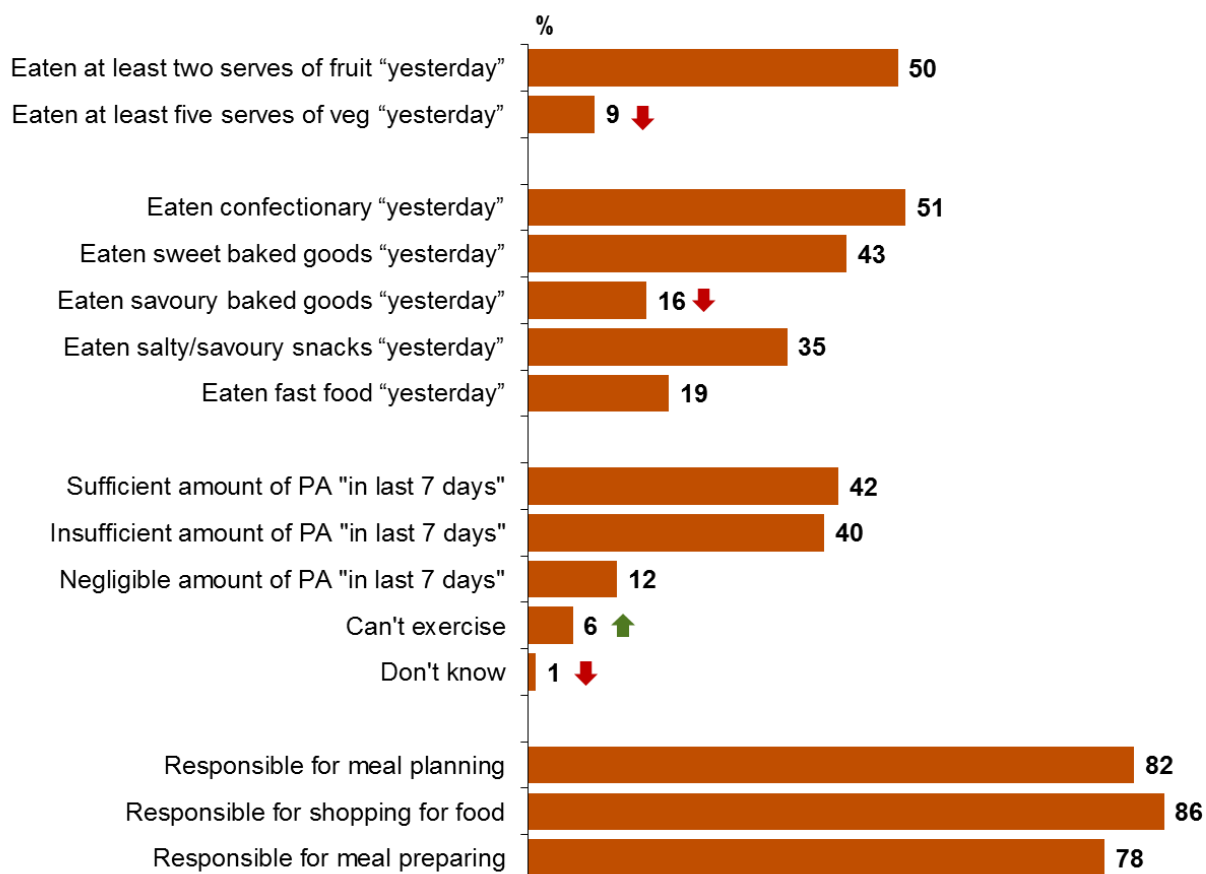
Consumption of discretionary food is generally aligned with the total population. They were significantly less likely to have consumed savoury baked goods 'yesterday' (16%) and did not record any high intake of consumption for the food types shown 'yesterday' or 'in the last week'.

70% indicated they thought they had a healthy diet over the last year (the third highest segment) suggesting they don't understand the implications of their low fruit and vegetable consumption.

Struggling are more likely to always or most of the time: "eat too much food in one sitting" (21%), "finish everything on my plate even when full" (48%), "eat a bigger size meal than needed" (26%), and "eat when not hungry" (16%). They are less likely than Advocates and Attainers to follow a way of eating (44%), but for those who do, a low fat diet (19%) and clean eating (16%) are the primary styles.

Around two thirds (68%) of the Struggling segment plan by always or most of the time making a list before shopping for groceries.

Figure 11.4.2.1: Behaviour – Struggling



SOURCE: B2: Now thinking about vegetables, including fresh, dried, frozen, or tinned vegetables, and thinking just about yesterday can you tell me how many serves of vegetables you ate? B1: Thinking about eating fruit, including fresh, dried, frozen or tinned fruit, and thinking just about yesterday can you tell me how many serves of fruit you ate? B4: Still thinking about yesterday, which of the foods and drinks listed below did you consume? D1: Thinking about the last seven days, on how many days did you do a total of 30 minutes or more of physical activity, which was enough to raise your breathing rate? D2. What do you estimate was the total time that you spent over the last seven days being active in a way that increased your breathing rate? B8a. Which of the following best describes your role in planning meals, shopping and cooking ...?

BASE: Struggling segment (n=832)

NOTE: 'PA' refers to physical activity. The downward pointing red and upward pointing green arrows indicate a significant difference at the 95% confidence interval against the total survey population.

11.4.3 Attitudes – diet

Struggling are confident that they have the skills and knowledge to shop and cook healthy meals. Their high efficacy comes from significantly higher agreement on: "I have the skills and ideas to shop for and cook healthy meals" (80%), "I have the right information to cook healthy meals" (80%), "I have the ideas to cook healthy meals" (77%), "I find it easy to cook healthy meals" (74%), and "Nutrition labels on food are easy to understand" (58%). However, they have low response efficacy and find it difficult to maintain the healthy eating, especially when busy: "When you're busy, it's so much easier to just grab take away than cook at home" (63%), "I find it really difficult to eat healthy foods often" (39%).

Over two thirds (69%) wish they could improve their diet – the highest of all segments.

External influences (setting) impact behaviour with 'Struggling' the most likely to claim they eat unhealthy food when at gathering/special events (60%), out with friends/family (58%), or if specials/deals attract their attention (48%). They are also vulnerable to emotional stresses, snacking when bored (56%) or eating unhealthy food when feeling depressed or anxious (54%). They are also more likely to eat fatty or salty food if they have been drinking alcohol (48%).

The cost, wastage, and time of preparing healthy food were felt to outweigh the perceived benefits for this segment. There was strong agreement on: "The cost of healthy food can put me off buying it" (57%), "I don't buy fruit and vegetables as much because I end up throwing too much out" (41%), and "I would eat more vegetables if it didn't take so long to prepare them" (39%).

This segment had the highest agreement on: "I often choose unhealthy food because I love the taste of it and just can't resist" (50%). Struggling had the highest agreement that "I need to eat smaller sized meals" (68%), and "I don't worry too much about the amount I eat when the food I'm eating is healthy" (58%).

As parents, they believe they have a big influence on their children, try and set a good example and are more conscious of being healthy as a result of having children.

11.4.4 Attitudes – physical activity

Struggling have a high level of recognised benefits of engaging in physical activity, agreeing they think (75%), sleep (77%) and feel better all round (86%) after engaging in some physical activity. Struggling believe that physical activity is also a good way to balance out unhealthy food and drink (62%). There is a high proportion of this segment that only exercises when trying to lose weight – the highest among all segments (33%).

Perceived costs include not enough time, difficulty with age and the price of participating in physical activity resulting in many of this segment not achieving the sufficient amount of exercise recommended. They are the highest segment to agree that it's harder to exercise as you get older (65%).

Self-efficacy is moderate among Struggling. A significantly higher proportion believe "doing 30 minutes more activity a week is something I could try to do" (86%), however Struggling also wish they had time to do more exercise (67% - the highest of all segments), that it is easier to exercise with someone else (63%), and that meeting up with friends or a team makes exercise more enjoyable (62%). 83% of Struggling know they need to be more physically active, and recorded the highest of all segments on this statement. They are aware that they should be doing different types of physical activity.

11.4.5 Information sources and influence of social media

This segment is fairly moderate in all activity related to seeking out and taking action from various information sources. They show a reasonable amount effort in seeking out information sources of all kinds, and using these as inspiration to cook a meal or try a new exercise/type of physical activity from. Struggling however do not record significant greater or fewer proportions of engagement or response – they are 'middle of the road', trying, not failing, but not succeeding either. This is likely due to the high levels of importance that they place on having a healthy lifestyle and the desire to commit but the challenge they face in exhibiting the correct behaviour consistently.

Struggling has a significantly higher daily usage of Facebook and overall use of YouTube but are significantly less likely to follow or view celebrity chefs in their social media feed. They contain a significantly greater number of viewers of Better Homes and Gardens and Jaimie Oliver.

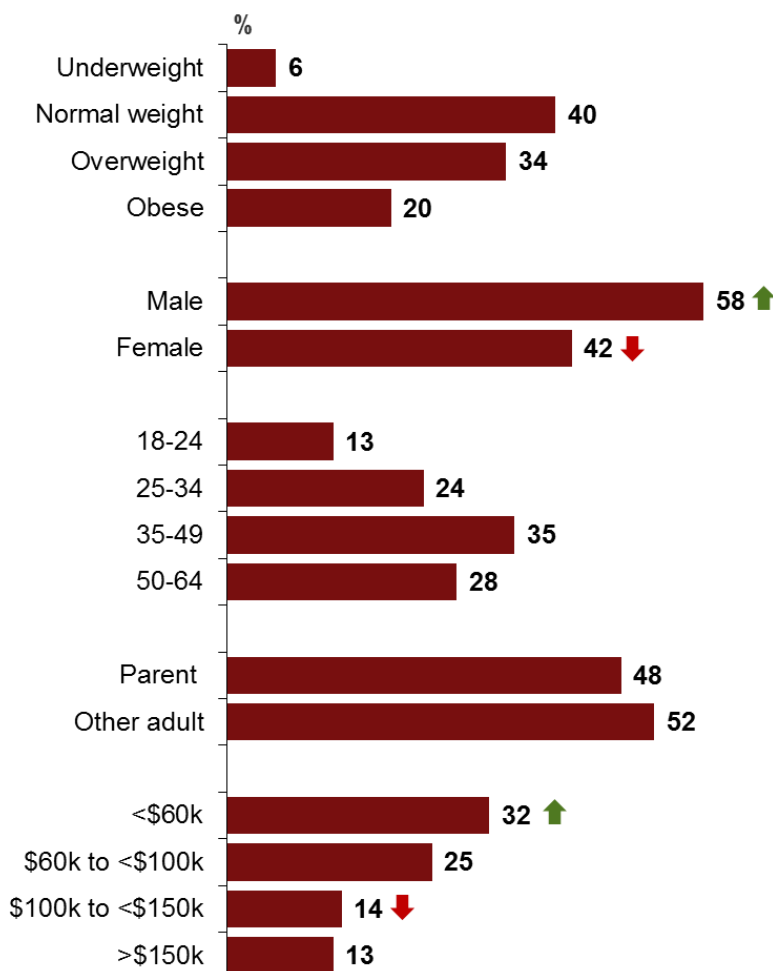
11.5 Deniers (11% of Australian adults)

Deniers are more likely to be males, have lower household income, and are less educated. They do not believe having a healthy lifestyle is important and do not engage in content about diet/physical activity on social media. They do not describe themselves as routine and organised individuals, and are less likely to be responsible for shopping or meal preparing.

11.5.1 Demographics

The Denial segment contained the greatest proportion of males (58%) and lowest household income bracket (32% under \$60K). They were significantly less likely to be university educated (33%) and in turn, more likely to have a certificate or diploma (40%). Deniers have a higher incidence of those not in the work force (18%) with 9% unemployed, 5% unable to work, and 5% students. There are a lower proportion of Aboriginal and Torres Strait Islander respondents among this segment (2%). This segment does not believe having a healthy lifestyle (eating healthy and being physically active) is important (0%).

Figure 11.5.1.1: Demographics – Denial



SOURCE: E1: How much do you weigh? E2: How tall are you? S3: Are you male or female? S4: How old are you? S5: Which of the following best describes your household situation? H4. Which of the following best describes your household's approximate income?
 BASE: Denial segment (n=337)

NOTE: The downward pointing red and upward pointing green arrows indicate a significant difference at the 95% confidence interval against the total survey population.

11.5.2 Behaviour

Only 36% of Deniers are achieving a sufficient amount of physical activity – the equal lowest segment with Ambivalent, and significantly below average. Not surprising, this segment has the highest proportion of those who are negligible in the amount of exercise they are doing (18%), and also contain a higher proportion of those who do not exercise because their job is physically active (5%).

Deniers are significantly more likely (when compared to the average and against all segments excluding Ambivalent) to think you should be exercising 1-3 days a week and more likely to think you should be exercising for 10 mins or less, with 32% of the opinion that 90 minutes per week is a sufficient amount. Their confusion regarding the correct amount of activity one should be doing is also indicated when they were asked if they believe they had done a healthy amount of physical activity over the last seven days, with a significantly greater proportion (8%) answering 'Not sure'. It is however clear that they have some level of recognition regarding the low amount of physical activity they are doing, with only 45% believing they had done a healthy amount of physical activity over the last year – significantly lower than the average.

Only 39% of Deniers had consumed the recommended 2 serves of fruit 'yesterday' – the least amount consumed by any segment. 21% recorded consuming no fruit, and 19% did not know how many serves they had eaten. Deniers were also the least likely out of all segments to consume on or above the Australian Dietary Guidelines for vegetables (8%), with 17% not knowing how many vegetables they had consumed.

The diet of Deniers contains a significantly higher level of discretionary food including consumption 'yesterday' of: fizzy sugar sweetened drinks (38%), processed meat (50%), savoury baked goods (27%), and non-fizzy artificially sweetened drinks (17%). Again there is some recognition from the segment that these foods are not 'healthy' with only 54% believing that their diet over the past year was healthy – the lowest of all segments and significantly worse than the average.

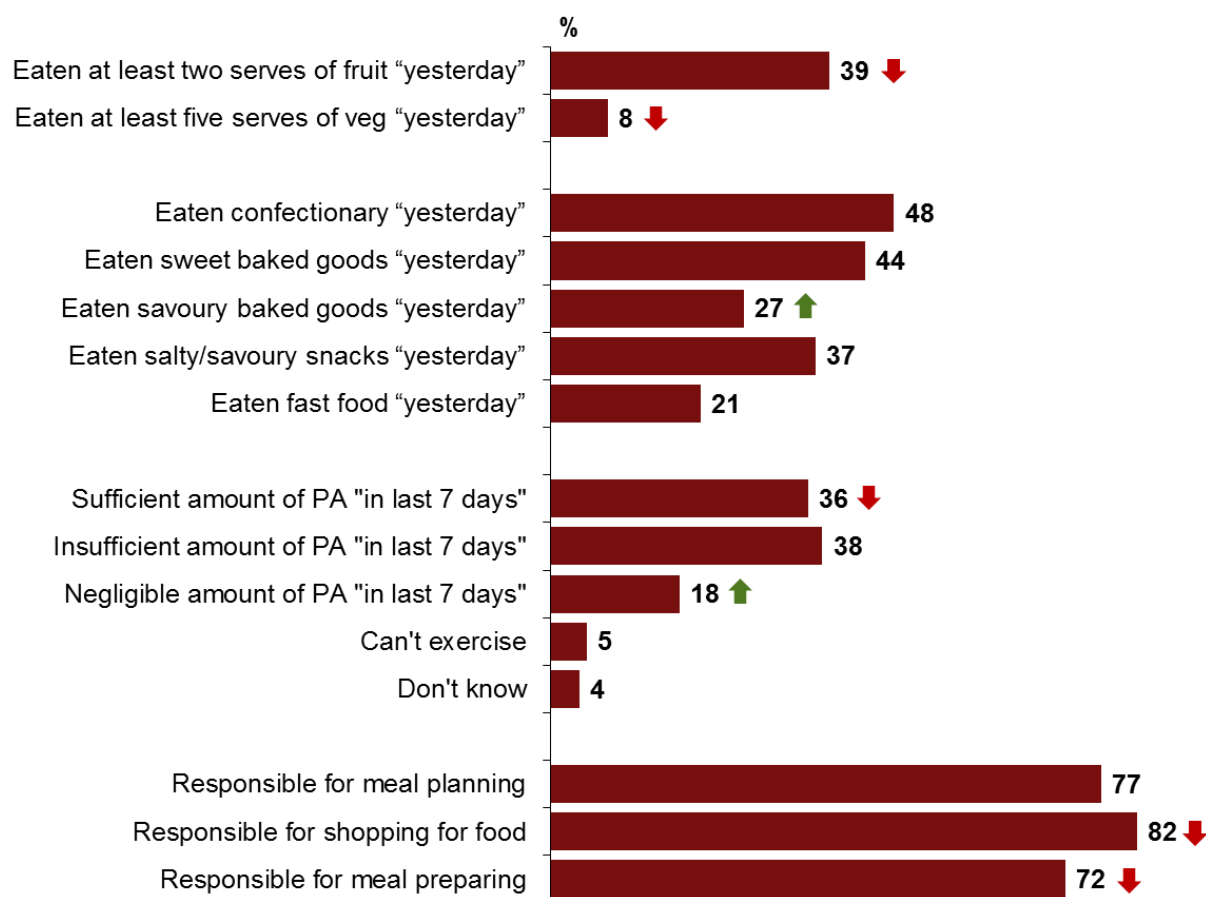
Deniers are significantly more likely to always or most of the time: "feel uncomfortably full following a meal" (19%) and "eat when not hungry" (18%).

Deniers are not planners, with many of the segment answering that they rarely or never: "create a rough meal plan" (35%), "create a plan for few meals a week" (44%), "include vegetables in meal planning" (12%), "make a shopping list" (21%), or "include healthy snack options in shopping" (23%).

This segment is also significantly less likely than the total population to describe themselves as an organised person (73% agreement). They are less likely to be engaged in a particular 'way of eating' (only 32% follow some type of diet) and less likely to engage in content about diet or physical activity on social media.

Deniers weigh themselves less often or never (29%) and 60% never take their waist measurements with a tape measure. Deniers are less confident in preventing weight gain, with only 54% confident in their ability to not put weight on over the next 12 months, and 33% not confident – significantly higher than the average and amongst all other segments. The same pattern can be seen with confidence over a five year period, with 47% confident and 37% not confident. Nearly half (45%) also said it was unlikely that they will try and lose weight over the next 12 months – significantly higher than the average and all other segments.

Figure 11.5.2.1: Behaviour – Denial



SOURCE: B2: Now thinking about vegetables, including fresh, dried, frozen, or tinned vegetables, and thinking just about yesterday can you tell me how many serves of vegetables you ate? B1: Thinking about eating fruit, including fresh, dried, frozen or tinned fruit, and thinking just about yesterday can you tell me how many serves of fruit you ate? B4: Still thinking about yesterday, which of the foods and drinks listed below did you consume? D1: Thinking about the last seven days, on how many days did you do a total of 30 minutes or more of physical activity, which was enough to raise your breathing rate? D2: What do you estimate was the total time that you spent over the last seven days being active in a way that increased your breathing rate? B8a. Which of the following best describes your role in planning meals, shopping and cooking ...?

BASE: Denial segment (n=337)

NOTE: 'PA' refers to physical activity. The downward pointing red and upward pointing green arrows indicate a significant difference at the 95% confidence interval against the total survey population.

11.5.3 Attitudes – diet

Deniers lack self-efficacy, with a lower confidence in preparing and cooking healthy meals. They do not feel equipped with the right information (55%), skills and ideas (55%), and therefore find eating healthy difficult (29%).

They find it difficult to understand nutrition labels (34% believe they are easy to understand), and they feel they are time poor when it comes to shopping, preparing and cooking healthy meals (49%). They are least likely to want to improve their diet (49%), and most likely to not pay attention to what they eat (40%).

They are less likely however to be influenced by internal factors (such as being disciplined), with low agreement on: "If I'm feeling depressed or anxious I treat myself with food that's not healthy" (39%), "I often eat fatty or salty food if I've been drinking alcohol" (36%), and "I snack too much when I'm bored" (42%).

They also have low agreement on external influences: “Seeing ads for unhealthy food or takeaway often tempts me to eat it” (27%), “I can’t help myself eating unhealthy food when you are at big family gatherings, or special events/functions” (47%), “I often find myself eating unhealthy food if I’m out and all my friends/family are doing it” (39%), “I find myself eating more than I planned when there are specials or value deals on the meals when I’m eating out” (35%).

They are more likely to perceive healthy foods/vegetables as boring to eat (35%), and ‘eating healthy foods’ is something they do not enjoy (31%). They are less likely to think having a good routine is important and helps you to eat more healthy foods (57%), and least likely to think they need to eat smaller sized meals (47%), or to worry about the amount being eaten if it is healthy (47%).

As parents, they are less likely to agree that they have a big influence on their children’s healthy eating habits, setting a good example, and being more conscious.

11.5.4 Attitudes – physical activity

Deniers are least likely to perceive the benefits to their own health from doing physical activity i.e. stress relief, clearer mind, improved sleep, feeling good, with the lowest agreement on: “After a busy or stressful day it feels good to have a workout” (37%), “Exercise is a good way to balance out unhealthy food and drink” (50%), “I think better after I have done some exercise” (47%), “I sleep better after I have done some exercise” (53%), and “I feel good about myself after I have done some exercise” (50%).

They are least likely to feel they need to be more physically active (59%), and are less likely to want to do physical activity, with the lowest levels of agreement on: “I wish I had time to do more exercise” (42%), and “doing 30 minutes more activity a week is something I could try to do” (58%). Being active is also something that they do not think about, with the highest agreement of all segments (47%).

As parents they have lowest agreement on: “I try and set a good example of being physically active for my kids” (45%), and “I encourage my kids to be active every day” (60%). As parents they are also less likely to agree that parents have a big influence on how active their children are (67%) and they do not spend a lot of time being physically active with their child (45%).

This segment does not have extensive knowledge of what physical activity specifically involves, with the lowest agreement on: “It’s not really exercise unless you are puffing and sweating” (39%). Deniers do have some efficacy however, being the least likely out of all the segments to agree that gyms/fitness centres are intimidating (46%).

11.5.5 Information sources and influence of social media

This segment is significantly less active on social media. Daily use of Facebook and Snapchat is significantly less than average (47% and 7% respectively), and overall engagement with Instagram also lower than average, with only 4 in 10 using the platform at any given time (62% never). Deniers are therefore the least likely to be aware of any posts about food or exercise/physical activity.

For the Deniers who do use social media at least some of the time, they are still significantly less likely to follow or regularly view on their feed particular people or pages associated with health, food and exercise/physical activity. For those who do follow or are exposed to health, food, or exercise groups or pages – they are significantly less likely to find the posts entertaining, trustworthy, useful, or inspiring. What is interesting however, is that this segment is not dis-engaged from the content that they do see – they do pay attention to who is posting the content (potentially due to the lack of trust associated with these posts).

There is also low engagement in other sources of information, with over a third (35%) of this segment claiming to never pick up the free recipe magazines in supermarkets. This is however likely due to the significantly fewer number of 'shoppers' in this segment. Close to half of this segment (41%) also claim to not watch any shows about cooking/kitchen or fitness on television.

There is a clear refusal from Deniers to acknowledge that their health is something that should be taken seriously, with this segment significantly less likely to consult a health professional, personal trainer or physical trainer in the last twelve months. Two thirds (64%) of this segment, had never used an app or device that tracks food and/or exercise.

12. Making positive dietary and activity changes

In the second phase of qualitative research, reactions to a series of behavioural calls-to-action and 'nudges' were explored. The purpose of this component of the research was not to test messages in exact form, but to explore which options had potential for further consideration, and understand why certain strategies are effective or not effective in encouraging behaviour change.

12.1 Stimulating behaviour change through message calls to action (CTA)

Research participants were shown three sets of behavioural CTAs, one set for eating more vegetables, one for eating less discretionary foods, and one set for doing more physical activity. The CTAs were developed from the findings from first stage of qualitative research. Reactions to the CTAs were explored through discussion, one set at a time. The intention of this section of the research was to understand what kinds of statements or particular words are helpful and motivating or off-putting, rather than to test the CTA statements against each other as fixed options. To this end, participants were encouraged to progress towards 'mixing and matching' parts of different statements to enable the researcher to diagnose and identify helpful and problematic wording.

12.1.1 CTAs for eating more vegetables

Five CTAs were introduced, in order to explore reactions to messaging around 'serves', quantified targets, personal reflection, and references to 'every day' versus 'every meal'. The CTAs were:

- Eat more vegetables
- Include an extra serve of vegetables every day
- Add an extra handful of vegetables to every meal
- Aim for 3 serves of vegetables every day
- Aim for 4 or 5 serves of vegetables every day
- Are you getting close to ? serves of vegetables a day?

Overall, participants indicated a strong preference for the '**add an extra handful of vegetables to every meal**' statement, over all other options. This CTA had the most potential for activating participants towards eating more vegetables, and those even minimally involved in meal preparing found it relatable and do-able. The most effective part of this CTA was the reference to 'a handful' which acted as a mental short cut to imagining oneself cooking a meal and adding in extra vegetables. This was the case for both men and women, of all age and weight groups.

'Why don't you just add an extra handful? ... it seems silly, like why wouldn't I do that?'
(Mother, 25-39 years, Perth)

'It just seems simple. You're eating a meal anyway – just add it in.' (Male, 25-39 years, Sydney)

Other strengths of this CTA included:

- A 'handful' could be visualised while shopping as well as preparing meals – participants could immediately see themselves selecting, chopping and cooking extra handfuls of vegetables;
- A 'handful' was also felt to equate, approximately, to one 'serve' and thus acted as an effective mental calculator for how many serves of vegetables they were eating. In contrast, using 'cups' to explain 'serves' was far less motivating. Participants preferred to talk about 'small handfuls' and 'large handfuls' and found this discussion engaging and motivating. The 'handful' device was also felt to translate well to serve sizes for children.

'Eat more vegetables is the same message we always get told, and the serves size I think is sometimes confusing when you hear differences of is it 3, is it 4, 5, whatever so just saying, if you've got your meal, just add one more handful, is really easy to visualise that easily.' (Mother, 25-39 years, Perth)

- A 'handful' was a reminder that could be actioned for every meal (mostly dinners, but also for lunches) and could work for all meal types and meal occasions.

The tone of this CTA was felt to be positive, friendly and encouraging (compared to some of the others that were felt to be 'telling' or setting them up to fail). Additionally, the inclusion of the words 'add' and 'extra' were endorsed by the majority of participants, who felt that these words were an appropriate fit with the visualisation of meal preparation – adding 'this and that' or 'a little bit of this, an extra bit of that'. Participants starting from a higher vegetable consumption point (3 serves), particularly those in the normal weight groups, rejected the likelihood of adding an 'extra' handful to these meals, but nonetheless could find personal relevance in the CTA with respect to lunches, or snacks. There was very little indication of self-exemption from this CTA from any weight group.

This CTA, more so than the others, also spontaneously extended participant's conversation into notions of vegetable variety and colour – handfuls of different vegetables, or handfuls of different colours. The notion of 'colour' as a communication device is discussed in greater detail later.

The CTA '**are you getting close to X serves of vegetables a day?**' was also felt to be appealing tonally, and garnered self-reflection amongst some participants. However, it was not as appealing as the 'handful' CTA, nor did it create the strong visual image of adding vegetables to a meal. Most participants felt that 3 serves would be the biggest number of serves that could be inserted into this statement and still feel achievable. This CTA, along with the others was also weakened by the word 'serve'. The immediate reaction to this CTA was to question how much a 'serve' was, rather than immediately imagine oneself adding a handful of chopped vegetables.

For this reason, the other CTAs that included the wording '**serves**' or '**extra serve**' were not well endorsed. In particular for many of the overweight and obese participants, who felt that they already eat too much food, any messaging about adding/eating more (of anything) was felt to be contrary to what they 'should' be doing, and thus lacked legitimacy.

CTAs that included a **quantified target** were rejected by all but some in the normal weight participants. In particular, some men in the normal weight groups gravitated towards a quantified target (3 serves) because they liked the challenge of working towards a goal. However in the main, participants and in particular those in the overweight and obese groups felt that a quantified target was setting them up to fail. The tipping point for quantification was unanimously 3 serves, anything above that was felt to be unrealistic and unachievable. However even those that were open to messaging around 3 serves could not articulate how much (quantity) was in a serve and there was a general consensus that messaging around serves of vegetables was unhelpful unless it was accompanied with depictions of serves of all the different vegetables that they were interested in.

The CTA '**eat more vegetables**' was universally regarded as too general, and too authoritative in tone.

The language of vegetables

Following the discussion around the CTAs, the moderator explored through a quick pen and paper task, a potential vocabulary that could be used to make vegetables sound more appealing. The impetus for this task came from the first stage of qualitative research, which found that just the word 'vegetables' conjured up negative imagery and memories amongst many participants.

Similarly, in this second qualitative stage, those that consumed insufficient amounts of vegetables spoke of having a narrow range of vegetables in their weekly diet/meal plan, which they attributed to the limited and unenjoyable vegetables that they themselves were served in childhood.

'I'm always a bit hesitant because my mum was so unadventurous, you know, cauliflower, peas, potatoes, or maybe beans, so I'm actually scared of a lot of vegetables, I just don't know how to cook them.' (Mother, 25-39 years, Melbourne)

Using more descriptive vocabulary for vegetables was felt to be most important (influential) in the promotion of snack swaps, when decision making is often impulsive. In these moments, language that builds the anticipated eating experience or anticipated reward, by describing gratifying flavours, texture and mouth feel can potentially influence the in-the-moment decision.

Descriptions that were consistently recorded by participants across all groups were: crunchy, crispy, tasty, colourful, fresh, healthy, bright, juicy, sweet, delicious, zesty, ripe, and raw. Furthermore, using the fruit name combined with a descriptor (such as "crunchy" carrot sticks) was felt to be a better way to promote swaps rather than just saying 'vegetables'. This is also true for language regarding fruit (i.e. "juicy" peach).

12.1.2 The value of colour

Making reference to 'colour' when talking about vegetables, more so than fruit, worked as a euphemism for 'variety'. Participants were able to explore and name vegetables according to colour, and referencing colour acted as a short-cut to including a variety of vegetables into a meal (adding colour = add variety through different coloured vegetables). Participants could recognise, and agree, that adding colour to a meal made the dish healthier. Colour also linked well with the earlier discussion about 'handfuls', with participants able to imagine adding handfuls of colour, through an additional one or two types of vegetables.

However, participants also acknowledged that adding colour did not automatically mean the dish would taste better, and it could also take longer to prepare. A majority of meal preparers in the research reported wanting quick and easy ideas and recipes to assist them in preparing colourful, tasty meals or adding colour to their existing 'monochrome meals' such as spaghetti bolognese, beef stroganoff, pasta carbonara, beef stew etc.

12.2 Limiting discretionary foods

Eight discretionary food CTAs were shown to participants, enabling discussion around limiting sweet and salty snacks via swapping, planning, cutting back, and avoiding processed foods and to challenge the excuse of having a sweet tooth. The CTAs were:

- Swap sugar snacks for fruit or vegetables whenever you can
- Swap savoury & salty snacks for fruit or vegetables whenever you can
- Cut back on sweet snacks whenever you can
- Cut back on take away foods whenever you can
- Limit sweet snacks whenever you can
- Plan your snacks or lunches ahead of time
- Having a 'sweet tooth' is not an excuse to eat unhealthy foods whenever you like
- Cut back on processed packaged foods whenever you can

The CTA's that were received most favourably were those concerned with **planning** and **swapping**. Least preferred was the idea of challenging the excuse of having a 'sweet tooth'. The terms 'cut back' and 'limit' were felt to say the same thing, and there was no clear preference for one term over the other. However, the phrasing 'whenever you can' was rejected almost unanimously, on the grounds that it allowed too much leeway and wouldn't be taken seriously or urgently.

Plan your snacks or lunches ahead of time

The '**plan ahead**' CTA was preferred by those who were contemplating making changes, or who were not yet contemplating change but were open to it. Planning was felt to be a way of getting a healthy change started that would work for participants. The 'plan ahead' CTA also stimulated contemplation amongst some overweight and obese 'avoiders/deniers' who related to the 'truth' that a lack of forward planning meant they were often caught out eating unhealthy snacks by default.

More broadly, there was strong endorsement for raising the consciousness of planning ahead to ensure healthy choices are on hand. Many participants, both men and women, recognised there were several benefits of meal and snack planning.

Planning snacks CTAs need to be contextualised to a variety of snack settings and occasions (at work, driving home from work, at home after work, coffee with friend, kids' sports fixtures etc.), to be relevant and useful. Many participants, regardless of their endorsement of the plan CTA, needed further suggestions and ideas for healthy swaps. Reminding them to plan and pack a healthy snack was not enough, they lacked a 'how to' repertoire of healthy snack ideas to enable them to act upon the CTA. Parents also bemoaned the lack of 'child friendly' suggestions for healthy filling snacks while on the go.

'Plan ahead' was also felt to apply to grocery shopping, with participants noting that to have healthy snacks on hand, one needed to plan for this in the grocery shop in the same way that they would need to plan and shop for healthy evening meals.

12.2.1 Swaps

The positive reaction to this CTA resonated most strongly amongst participants who were preparing or ready to make healthy changes, or who were already healthy/normal weight but felt they could do better in this area of change.

As discussed above under 'plan', swapping CTAs need to be contextualised to a variety of snack settings and occasions, and accompanied with a range of ideas for healthy alternatives. Motivating people to swap is only part of the solution to making dietary changes, participants were unable to enact a change without a range of suggestions for swaps that will suit their taste and the setting and meal occasion during which they are snacking.

It was also evident that the legitimacy of a swap is influenced by the underlying motivation for snacking in the first place. Snacks that are mostly for reasons of hunger or convenience (needing to satiate hunger immediately, or having to grab something to eat quickly in between appointments/meetings/classes) can credibly be swapped to healthier suggestions. However, snacks that are being eaten to alleviate negative emotions such as boredom or stress, serve as an earned reward, or satisfy cravings are unlikely to be satisfactorily swapped to healthy alternatives. Therefore, messaging around swaps should be framed around 'quick', 'filling', and the notion of limiting/saving unhealthy 'treats' for the times when nothing else will do.

The CTA associated with **processed foods** was accepted as credible and important, but was rejected as a priority call to action as its viability, in the face of our food supply, was too difficult to action for all but the very committed who had plenty of free time.

12.3 CTAs to increase physical activity

Six CTAs were shown to participants, to explore language around 'active' versus 'moving', quantified targets and weekly versus daily calls to action. The CTAs were:

- Be more active
- Be active every day
- Add 30 minutes of activity to your day
- Add 30 minutes of activity to your week
- Are you moving enough every day?
- Move more every day

12.3.1 Move versus 'be active'

CTAs that action '**moving**' are the baseline that is achievable for people who are inactive by choice, or because of mobility restrictions due to chronic illness or diseases. People in these situations were over-represented in the overweight and obese groups. For some very ill or overweight people, the potential for being active was self-assessed every morning, and it was accepted that some days they would be able to do some activity and other days they would not. For these reasons, the language of 'moving' combined with 'every day' was felt to be an encouraging and sensitive reminder to try, without setting them up to feel they had failed. 'Move' was felt to include lower intensity types of activity, such as walking about the house or going for a short walk, gardening, cleaning and moderate forms of active transport.

CTAs that used 'be active' were an achievable preference for those doing a small amount of activity, or irregular activity. The word 'active' was felt to move them towards slightly more intense forms of planned or deliberate walking/running, leisure sports and deliberately planned active transport.

Weekly versus daily

In both cases ('move' and 'be active') the inclusion of the '**every day**' anchor was felt to be important, both to receive the broad range of health benefits and to embed activity in the daily agenda and (at least consideration of doing some activity) to become a daily habit.

12.3.2 30 minutes

People who were already regularly active preferred to use the 30 minute per day target to assess how they were doing, but for the majority, including a quantified target using the wording "add 30 minutes" was felt to be too hard. Many parents in the research felt that finding time in their day to add anything else to the 'to do' list was an impossible task, likely to end in failure and thus was demotivating.

12.3.3 Recommended wording

For this behaviour, more than the dietary change CTAs, it would appear that there is a need to consider two adjacent calls to action; acknowledging a person's starting point, but also that becoming active can lead to increased or more regular activity as the benefits are experienced.

The two CTAs that would have greatest appeal are:

- Are you moving enough every day? And
- Aim for 30 minutes of activity every day.

With respect to the second CTA, there was evidence that using the word 'aim' instead of 'add' in the quantified CTA considerably increases its appeal and reach, with far fewer people likely to reject or opt out because the word 'aim' motivates them to try, without the anticipated fear of failure engendered by 'add'.

13. Conclusions

13.1 Australian Dietary Guidelines

The research identified a divergence in people's perceptions of the value, relevance and credibility of a set of dietary guidelines for 'all Australians', distinguished mostly by people's age/generation and their weight. Older and less healthy/overweight participants were more supportive of a set of national guidelines and could see their value in helping to navigate the myriad of conflicting healthy lifestyle (particularly dietary) information they encounter. In contrast, younger and healthier participants were more likely to view a single, generalised set of guidelines as being out of date, impractical and inconsistent with how they sought, interpreted and applied relevant health information.

There was an observed incompatibility between participants' desire for clear and specific messaging about diet and physical activity recommendations (to avoid the ambiguity that was perceived to exist in many of the guideline messages), and at the same time be flexible and adaptable to individual needs and circumstances (not too prescriptive).

First impressions of the Australian Dietary Guidelines 'plate' resource were largely positive. However, many participants were confused by the recommended proportional intake of the five food groups, and considered the recommendations around the proportional quantity of each food type to be at odds with prevailing views and advice around what a healthy diet should include. The disconnect between these recommendations and contemporary 'good health' messages led some to begin to doubt the veracity of the resource generally.

Similarly, reactions towards the recommended number of servings provided on several of the Government's Eat for Health resources were considered overly prescriptive, conflicting with a perceived need to tailor lifestyle advice to accommodate individual concerns and outlooks. The recommendations for grains and cereals was met with the strongest rejection, and recommendations for milk, yoghurt, cheese and/or alternatives and fruit were felt to be entirely one's personal choice.

13.2 Considerations for intervention with segments

The research has highlighted the many challenges involved in developing a single resource to accommodate the increasingly diversifying knowledge and understanding, perceptions and motivations of the Australian population with respect to healthy lifestyle behaviours.

The segmentation undertaken as part of this research has identified five segments based on their commitment to eating healthily and being physically active. Examination of the profiles of each segment according to their demographics, behaviours and attitudes suggests that to increase behaviours supporting a healthy diet and sufficient physical activity levels, there is potential for intervention as follows:

- Ambivalent – the largest segment (40%), with low levels of fruit and vegetable consumption, high discretionary food consumption and low physical activity levels.
- Engaged and Committed – a combined 24% of the population, with the highest levels of fruit and vegetable consumption (though still not close to the recommended number of serves of vegetables), lowest discretionary food consumption, and highest levels of physical activity.
- Struggling and Deniers – a combined 37% of the population, clearly the most challenging segments with which to intervene given their current negative attitudes and poor behaviours.

Considerations for intervention with these segments are outlined below.

13.2.1 Priority 1 – Ambivalent

This segment is 40% of the population and has higher representation of males, younger people and mid to low household income. On average they consume 1.7 serves of fruit and 2.4 serves of vegetables per day, but of more concern is that they consider their vegetable consumption as 'healthy'. They have higher consumption levels of sugary drinks and sweet snacks, and have lower levels of physical activity. Importantly, their knowledge of how much physical activity is recommended for good health is low, as is their belief in the immediate or long term benefits of being active. Additionally, Ambivalent are likely to over-estimate how healthy their diet is.

People in the Ambivalent segment also do not have attitudes that support healthy lifestyle behaviours. They report lower levels of self-efficacy to achieve a healthy lifestyle; far fewer people in the Ambivalent segment feel they have the skills, information and ideas to prepare healthy meals. Additionally, Ambivalent are more likely to claim that the time, effort and wastage costs of eating healthy foods or being more active outweigh the benefits.

Lower perceived importance of having a healthy lifestyle also characterises this segment, compared to the two more committed segments. Seven in ten (71%) claim having a lifestyle that supports healthy eating and being physically active is important to them. Whilst this level of importance may on the face of it seem high, 100% of people in the more committed segments rate having a healthy lifestyle as important to them. Ambivalent are also more likely to report not enjoying eating healthy foods, in particular vegetables, and to enjoy the taste of unhealthy foods.

The Ambivalent segment also has the highest proportion of people that are tempted by external influences, particularly by unhealthy snacking opportunities at work, and at the supermarket checkout.

Parents who are Ambivalent are less likely than other segments to be trying to role model healthy behaviours to their children, and are not convinced of the important influence they can have in this regard.

Australians in the Ambivalent segment therefore need education and persuasion, with efficacy-building assistance, to become more committed to achieving a healthier lifestyle. **They need a combination of motivation, incentives and inducement.**

A multi-pronged approach is likely to be most appropriate and effective with the Ambivalent segment, with the following important considerations:

- The overarching aim should be to **raise the importance of a healthy lifestyle** and to enable people to identify and redeem personalised benefits from making healthy changes. The costs of change (time, effort, energy, skills, and ideas) require re-framing, so that individuals in this segment can identify immediate and long term benefits for themselves or their families, that feel achievable and worth the effort.

- It is important that **self-reflection of current poor behaviours** is stimulated, in particular:
 - Low fruit and vegetable consumption – the CTA ‘add an extra handful of vegetables to every meal’ is likely to resonate strongly with this segment, contingent on being accompanied with clear examples of how this can be achieved. Encouraging the concept of ‘making menu/meal planning and shopping lists a habit’ is likely to support the CTA as are social media posts of inspiring and easy looking meal ideas to boost ideas. As well, any communication could address Ambivalent’s lack of familiarity with a wider range of vegetables – what to do with them, and how to make them taste nice. Not knowing how to prepare tasty vegetables is one of the biggest barriers to increased consumption for this segment.
 - Raising the consciousness of how often Ambivalent’s consume sugary drinks and sweet snacks/impulse snacking would also help them to recognise their poor habits and position them to consider cutting back – the CTAs focused on planning snacks ahead of time and swaps are likely to be well received by Ambivalent, as long as they are delivered with clear examples of healthy alternatives.
 - Low physical activity levels – given the current low levels of physical activity, use of the CTA ‘move more every day’ is likely to be most successful in encouraging increased activity, rather than promoting what will be considered ‘impossible’ targets of 30 minutes per day. Communication demonstrating different ways of incorporating more physical activity into their lifestyle, including a focus on active transport, will provide tangible ideas to increase self-efficacy and in turn activity levels.
- Communication should also:
 - Reflect the younger demographic by ensuring a younger “feel”;
 - Have tailored executions for males and females; and
 - Depict people of a low and middle household income to ensure relevance.
- Messaging specifically for parents in this segment should focus on the important role they have in the future health of their children, and how role modelling this behaviourally (not simply encouraging the behaviour in their children) will set up norms for their child as they transition to adulthood. Imagery that depicts parents being active in family settings, preparing and eating healthy meals that look easy to prepare, and choosing healthy snacks in external settings are most appropriate.
- Broader strategies could focus on boosting recipe ideas and skills to incorporate healthier snacks and meals

13.2.2 Priority 2 – Committed and Engaged

Combined this segment accounts for 24% of the population, and is characterised by very positive attitudes and behaviours, and a strong commitment to healthy eating and being physically active. They have a higher incidence of females, and mid to high household income, and are organised, often routine driven people. They have the lowest levels of overweight and obesity, the highest levels of fruit and vegetable consumption (although still below the recommended daily serves of vegetables), and the highest physical activity levels.

While they consume discretionary food, they do so at the lowest levels. They have the highest level of social media usage, and many follow food and activity related groups and posts on Facebook, Instagram and Snapchat. Parents who are Committed or Engaged recognise the important role they have as role models to their children, and actively demonstrate this through positive behavioural role modelling.

Any communication to this segment should be focussed on positive “reinforcing and rewarding”, while nudging them towards 4 serves of vegetables daily. Communications of this nature would work in tandem with an Ambivalent strategy, and could assist Ambivalent by modelling and recognising what attainment of healthy lifestyle behaviours looks like and how it’s done. Further research would be required to ensure there is no negative consequences for Ambivalent of this approach.

Committed and Engaged communications should be delivered almost exclusively by social media (Facebook, Instagram and Snapchat), with a CTA ‘add an extra handful of vegetables to every meal’ likely to be strongly endorsed, and to encourage an increase in vegetable consumption when combined with inspiring and easy looking recipe ideas. Committed could be engaged as content generators, to amplify to others how they incorporate vegetables into their meals, and make them tasty. Idea swapping is one of the favourite and regular habits of the Committed segment.

13.2.3 Priority 3 – Struggling and Deniers

Struggling are a challenging segment with respect to healthy eating and being physically active, with the highest incidence of obesity. Whilst this group has a strong desire to be healthier, consider it extremely important, and feel they have the skills, they are ‘undone’ by the effort and energy costs they perceive change would take, and they are too encumbered by the taste and emotional rewards of eating unhealthy foods, as well as the temptations of the external food supply. Struggling would describe themselves as having “will but no willpower”.

They tend to be older, with a higher incidence of people with medical conditions, which often make it difficult or impossible for them to exercise. They have lower consumption of fruit and vegetables, higher consumption of discretionary food, lower levels of physical activity, and a higher tendency to over eat.

Deniers have a higher incidence of males, lower household income and lower education. They are not committed to eating healthy or being active, have the lowest consumption levels of fruit and vegetables, the highest consumption of discretionary foods, the lowest levels of physical activity, and often over eat. They have low self-efficacy, low knowledge and little care.

Messaging for both these segments should focus on over eating and portion control, although communication is less likely to be effective for these segments, which are more likely to be responsive to other behavioural interventions.

13.2.4 Overarching communication considerations

The research demonstrates the very different communication needs and highlights the need to approach each segment differently for positive behavioural impact. As such, it is critical that any future communications be tested against each segment, regardless of whether they are overtly targeted, to ensure there are no unintended negative consequences resulting in amplification of undesirable behaviours.

Appendix 1 – Methodology

Research was conducted over three core stages comprising of: qualitative research (Phases One and Two), a subsequent quantitative survey, and development of a segmentation.

Qualitative research

The structure for the qualitative stage of the study comprised of the following two phases:

Phase One

- **26 x in-home immersions**, conducted via two 2 hour in-home in-depth interviews, seven to ten days apart (including a weekend), with a telephone interview scheduled in between the face to face interviews.
- **30 x in-home affinity mini discussions groups**, one 2 hour session with friendship or play groups (each including 3 to 6 participants); and
- **8 x online discussion forums**, conducted over ten days including online participation days, offline tasks, and rest days (each comprised of 9 to 11 participants).

Phase Two

- **12 x discussion groups**, 1.5 hour session with participants for communications testing, framing and calls to action (each comprising of 4 to 8 participants).

Indigenous audience research was sub-contracted to our research partners, CIRCA, who specialise in this area of research. Research with Aboriginal and Torres Strait Islander occurred simultaneously to Phase One and comprised of:

- **2 x mini discussion groups**, conducted with parents and carers of children aged 0-5 years (each including 5 participants);
- **3 x mini discussion groups**, conducted with parents and carers of children aged 5 years and above (each including 4 to 5 participants); and
- **5 x in-depth (telephone) interviews** with health workers.

Sample structure and stratification

All components of the qualitative research were designed to include a broad representation of Australians, considering both demographics and the considerable variation in attitudes and behaviour around healthy lifestyles.

For all qualitative research components, emphasis was placed on parents and families, with approximately two thirds of the sample including adults with children of pre-school, primary and secondary school age. We ensured that 15% of all participants were culturally and linguistically diverse (CALD) audiences.

For both face-to-face and online fieldwork, the following additional specifications applied:

- **Body weight:** Participants were screened via BMI classifications to establish a mix of those who were healthy weight, overweight and obese (no underweight Australians were involved in the qualitative research);
- **Lifestyle:** Across groups a mix of family composition was ensured, through involvement from couples with children, single parents, as well as singles and couples without children;
- **Gender and age:** Greater weight was placed on females and those aged 25 to 50 years, given that they were identified as having larger responsibility for meal preparation, shopping and planning in a family structure;
- **Socio-economic group:** Across groups a mix of household income was ensured, through high, medium and low household income classifications; and
- **Location:** Included a spread of metropolitan, metropolitan fringe, and regional areas.

The strata for all qualitative components are detailed below in Tables A2.1 and A2.2.

Table A1.1: Phase One Stratification

<i>Variable</i>	<i>Achieved n</i>	<i>Achieved %</i>
TOTAL	56 groups/immersions	100%
Gender – Male	20	36%
Gender – Female	36	64%
Age - 18-24	11	20%
Age - 25-39	22	39%
Age - 40-50	17	30%
Age - 51-65	6	11%
Life stage - Pre-school aged children	14	25%
Life Stage - Primary school aged children	14	25%
Life Stage - High school aged children	10	18%

<i>Variable</i>	<i>Achieved n</i>	<i>Achieved %</i>
Life Stage - No children	18	32%
Weight (BMI) - Normal weight	28	50%
Weight (BMI) - Overweight/Obese	28	50%
Attitude – Healthy	16	29%
Attitude - At Risk	12	21%
Attitude - Open to change	20	36%
Attitude - Closed to change	8	14%
Income – Low	18	32%
Income – Medium	15	27%
Income – High	23	41%
CALD – Yes	10	18%

Table A1.2: Phase Two Stratification

<i>Variable</i>	<i>Achieved n</i>	<i>Achieved %</i>
TOTAL	12 groups	100%
Gender		
Male	6	50%
Female	6	50%
Age		
18-24	2	17%
25-39	4	33%
40-50	4	33%
51-65	2	17%
Life stage		
Pre-school aged children	3	25%
Primary school aged children	3	25%
High school aged children	2	17%
No children	4	33%
Weight (BMI)		
Normal weight	3	25%
Overweight	5	42%
Obese	4	33%

<i>Variable</i>	<i>Achieved n</i>	<i>Achieved %</i>
Attitude		
Healthy	0	0%
At Risk	3	25%
Open to change	5	42%
Closed to change	4	33%
Income		
Low	4	33%
Medium	4	33%
High	4	33%

Location/Fieldwork

In order to achieve sufficient diversity, a mix of capital cities and a choice of urban fringe and regional towns were included for the main research component, including: Sydney, Sydney fringe, Newcastle and Wagga Wagga, Melbourne, Melbourne fringe, Geelong, Perth, Perth fringe, Bunbury and Kalgoorlie, Brisbane, South East Queensland, and Toowoomba. Recruitment with the general community was conducted by Q&A Research, Cooper Symons, and Thinkfield, with fieldwork for Phase One between 1 May-18 May, and Phase Two from 8 June-15 June.

Research with indigenous audiences took place from 8 May-15 May in Sydney, Moree, Brisbane, Cairns, and Shepparton. The in-depth (telephone) interviews with health workers were held with participants from the same locations.

All qualitative discussion guides were developed by Kantar Public, with feedback from the Department. Guides used for indigenous audiences were slightly altered to ensure cultural appropriateness, with some language simplified.

Rationale for approach

Attitudes to weight and healthy lifestyle are shaped by several factors, including beliefs, social norms and values, motivations, and significant contextual influences. The development of an effective segmentation model was dependent on a thorough understanding of these complex and inter-related issues, through a comprehensive program of qualitative research with the target audiences. While the reflective influences on behaviour (System 2) were relatively easy to capture through group discussions and in-depth interviewing, the need to understand habit and context (System 1) called for supplementary approaches. The study design therefore incorporated more observational and context focussed components, which are explained in greater detail below.

In home immersions were skewed to ethnography and understanding 'system 1/automatic' influences such as habit, heuristics, settings and context. Ethnography involves observing human behaviour in 'situ' rather than in a test or contrived situation. The technique is effective for painting a portrait of behaviour from inside the subject's world, and through the subject's eyes. The approach allows a more candid and truthful depiction of a situation and can allow more naturalistic reflection from participants.

The in-home interviews were structured around key tasks/objectives. Participants were asked to keep a written journal to document their day-to-day life, including what they ate and what they did. These were used as stimulus for discussion during the visit. Behavioural tasks/challenges were set with the researcher at each visit.

In-home affinity mini-groups were skewed to understanding 'system 2/deliberate' areas of decision making. Affinity mini-groups were selected because the structure represented a genuine group of people who were friends, rather than an artificial group of strangers. Responses from affinity groups tend to be both more honest and more forthcoming because participants feel more relaxed in the company of their friends, and in familiar surroundings, and are far more forthcoming in sharing their thoughts and opinions without the fear of judgement or guilt. Moreover, affinity groups capture insight into situational and environmental influences, and reveal a great deal about the influence of the peer group and the social factors which play a significant role in shaping participants' lifestyle norms. This was important for learning what supports healthy as well as unhealthy lifestyle habits, and the extent to which the influences are grounded in peer norms.

The affinity groups comprised of two existing peer group structures, with the bulk of the friendship groups held in one of the participants home, and a smaller component of groups re-formed 'mothers group' held at the usual playgroup location. Playgroups were used to explore how mothers approach their own health and lifestyle during this life-stage, and how it compares to their 'pre-child' approach.

Online discussion forums were included in the study design to broaden participant representation, with a greater geographic coverage than can be obtained face to face. The forums were conducted over an extended period, allowing us to gain insight into participants experiences and behaviour in greater detail and depth, and allow the participants more time to provide considered responses. Participants were asked to document their dietary intake and encouraged to upload photos to provide understanding into meal portion size, fridge and pantry contents.

Discussion groups for strategy testing were used as a dedicated final stage of the qualitative research and explored independently of all other objectives. Messaging and frameworks were tested among twelve groups in traditional group settings.

Quantitative stage

The quantitative stage consisted of an **online survey with 3,150 Australian adults** aged between 18 and 64 years. The data was weighted according to ABS census statistics.

Questionnaire design

Following the completion of the qualitative research, a questionnaire framework was developed which identified key questionnaire sections and broad details of what would be included in each section. The sections were:

- Screening
- Section A – General perceptions on health
- Section B – Dietary behaviour
- Section C – Attitudes to diet/healthy eating
- Section D – Physical activity behaviour and attitudes
- Section E – Weight
- Section F – Commitment Section
- Section G – Information sources
- Section H – Demographics

Once the broad questionnaire structure had been agreed with the Department, a full draft questionnaire was developed, and then refined by Kantar Public based on feedback from the Department.

Pilot testing

At the beginning of fieldwork, a small pilot launch was conducted on 31 May 2017. The pilot was used to check that the survey script had no technical problems, that all questions were working as intended and that the survey was the anticipated length.

A total of 54 interviews were conducted as part of the pilot. The pilot questionnaire length was an average of 30 minutes rather than the 25 minutes originally planned for. It was decided that rather than drastically reducing the questionnaire length the survey would be kept at 30 minutes and respondents would be incentivised for a 30 minute survey. While this is longer than usual research, it is our experience that when interviewing about health, we have a highly engaged audience who are happy to complete longer surveys. Respondents were also asked an additional (small) question asking them to reflect on the experience, highlighting any difficulties in completion or confusion with questions. Responses were reviewed and there were few complaints about the survey length.

There were no technical problems in the pilot survey, however it was decided to make a few questionnaire changes, including updating some response code lists and removing a demographic question about sexual orientation.

Fieldwork

The main stage of fieldwork ran from 1 June - 13 June. Since interviews from the pilot stage were included in the total sample, the entire fieldwork period ran from 31 May - 13 June.

The average length of the interview was 32 minute. All online respondents were incentivised through an online points reward system.

Sample was sourced from SSI, Lightspeed Research, and Red Planet. These panels were selected to ensure we obtain the most robust and nationally representative sample as possible, including the n=126 Aboriginal and Torres Strait Islander completes.

Achieved sample

The target sample size for the quantitative survey was 3,000 Australian adults aged 18-64, with the primary target audience of parents aged 18 to 50 years, and the secondary target audience of other adults aged 18 to 65 years.

To ensure that the achieved sample would be representative, quotas were placed on location (state, or for larger states, metro and regional within state) and respondent type (parent, other adult), while monitoring quotas were placed on gender, age and whether CALD or Aboriginal and Torres Strait Islander.

Of the Australians invited to participate, 3,150 complete interviews were achieved at an average survey length of 32 minutes. 1,940 interviews were completed with the primary audience of parents and 1,210 interviews were completed with other adults.

The target percentages are based on ABS census data, except for ACT, Tasmania, and Northern Territory (to allow a large enough sample for analysis). The following table illustrates the sampling frame used for this research.

Table A1.3: Sampling frame for quantitative research

Variable	Target n	Target %	Achieved n	Achieved %
TOTAL	3,000	100%	3,150	105%
Location				
NSW – Metro	450	15%	532	17%
NSW – Regional	150	5%	189	6%
VIC – Metro	450	15%	541	17%
VIC – Regional	150	5%	171	5%
QLD – Metro	325	11%	368	12%

<i>Variable</i>	<i>Target n</i>	<i>Target %</i>	<i>Achieved n</i>	<i>Achieved %</i>
QLD – Regional	125	4%	152	5%
WA – Metro	325	11%	341	11%
WA – Regional	125	4%	92	3%
SA – Metro	325	11%	360	11%
SA – Regional	125	4%	92	3%
ACT	150	5%	154	5%
TAS	150	5%	112	4%
NT	150	5%	46	1%

<i>Variable</i>	<i>Target n</i>	<i>Target %</i>	<i>Achieved n</i>	<i>Achieved %</i>
TOTAL	3,000	100%	3,150	105%
Respondent Type				
Parent	2,000	67%	1,940	62%
Other Adult	1,000	33%	1,210	38%
CALD				
Yes	450	15%	451	14%
No/ Prefer not to say	2,550	85%	2,699	86%
Aboriginal and Torres Strait Islander				
Yes	100	3%	126	4%
No/ Prefer not to say	2,900	97%	3,024	96%

Weighting

The survey data for the 3,150 complete interviews was weighted using a Random Iterative Method (rim) technique with targets defined for gender (2 categories), age (4 categories), and location (13 categories). The three non-interlocking dimensions are individually put through an iterative sequence of weighting adjustments. The sequence adjusts for each dimension in turn and then repeats itself as many times as is required in order to obtain a convergence, in which the sum of the weighted dimensions matches the ABS census statistics for those aged 18-64.

The rim weighting efficiency gives an indication of how well balanced the sample is. If the data for many respondents needs to be heavily weighted up or down, the efficiency percentage will be low. The weighting efficiency was 69.7% (maximum weight 4.65; minimum weight 0.13), which is a respectable proportion, given the deliberate decision to over-represent parents in the survey design.

The target weights for gender, age, and state/territory are shown in the following table.

Table A1.4: Target weights for quantitative research

<i>Variable</i>	<i>Target weight</i>
Location	
NSW – Metro	21%
NSW – Regional	11%
VIC – Metro	19%
VIC – Regional	6%
QLD – Metro	10%
QLD – Regional	10%
WA – Metro	8%
WA – Regional	2%
SA – Metro	6%
SA – Regional	2%
TAS	2%
ACT	2%
NT	1%
Gender	
Male	50%
Female	50%
Age	
18-24	15%

<i>Variable</i>	<i>Target weight</i>
25-34	22%
35-49	34%
50-64	29%

Appendix 2 – Sample and Quota Requirements

Quota Requirements

Respondent Type	DEFINITION	QUOTA
Parents	S6 = 1	2,000
Other Adults	S6 = 2	1,000
Age: 18-24	S4 = 2	Soft quotas for monitoring
Age: 25-34	S4 = ¾	Soft quotas for monitoring
Age: 35-44	S4 = 5/6	Soft quotas for monitoring
Age: 45-54	S4 = 7/8	Soft quotas for monitoring
Age: 55-64	S4 = 9	Soft quotas for monitoring
Age: 65+	S4 = 10/11	Soft quotas for monitoring
Gender: Male	S3 = 1	Soft quotas for monitoring
Gender: Female	S3 = 2	Soft quotas for monitoring
CALD	H2 = 2 - 11	Aim for 450
Aboriginal and Torres Strait Islander	H1 = 2 - 4	Aim for 60

Interlocking Quota Requirements S2 (see Postcode Definitions)

State/Region	Parents (S6 = 1)	Other Adults (S6 = 2)
QLD – Metro	225	100
QLD – Regional	75	50
NSW – Metro	300	150

State/Region	Parents (S6 = 1)	Other Adults (S6 = 2)
NSW – Regional	100	50
VIC – Metro	300	150
VIC – Regional	100	50
WA – Metro	225	100
WA – Regional	75	50
SA – Metro	225	100
SA – Regional	75	50
TAS	100	50
NT	100	50
ACT	100	50

Postcode Definitions

STATE	METRO	REGIONAL
NSW	1000-1920, 2000-2239, 2555-2574, 2578-2579, 2740-2786, 2890-2891, 2898-2899	1921-1935, 1946-1999, 2240-2494, 2500-2554, 2575-2577, 2580-2588, 2590, 2594, 2619, 2621-2739, 2787-2889
VIC	3000-3210, 3335-3341, 3425-3443, 3750-3811, 3910-3920, 3926-3944, 3972-3978, 3980-3983, 8000-8899	3211-3334, 3342-3424, 3444-3749, 3812-3909, 3921-3925, 3945-3971, 3979, 3984-3999
QLD	4000-4209, 4500-4549, 9000-9299, 9400-9596	4210-4499, 4550-4999, 9300-9399, 9597-9998
SA	5000-5199, 5800-5999	5200-5749
WA	6000-6214, 6800-6999	6215-6799
ACT	0200, 0221, 2600-2612, 2614-2618, 2620, 2900-2906, 2911-	<i>Not applicable</i>

STATE	METRO	REGIONAL
	2914	
TAS	Not applicable	7000-7199, 7200-7499, 7800-7899, 7900-7999
NT	<i>Not applicable</i>	0800-0834, 0835-0899, 0900-0999

Appendix 3 – Body shape images

Figure A4.1: Body shape images

