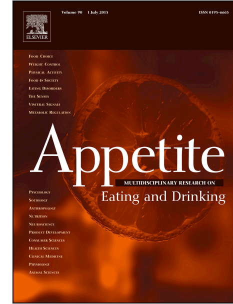
Archived at the Flinders Academic Commons:
http://dspace.flinders.edu.au/dspace/

'This is the peer reviewed version of the following article:
Velardo, S., & Drummond, M. (2018). Australian children's perceptions of discretionary foods. Appetite, 120, 43–48. https://doi.org/10.1016/j.appet.2017.08.022

which has been published in final form at
http://dx.doi.org/10.1016/j.appet.2017.08.022

© 2017 Elsevier. This manuscript version is made available under the CC-BY-NC-ND 4.0 license http://creativecommons.org/licenses/by-nc-nd/4.0/

Accepted Manuscript



Australian children's perceptions of discretionary foods

Stefania Velardo, Murray Drummond

PII: S0195-6663(16)30999-0

DOI: 10.1016/j.appet.2017.08.022

Reference: APPET 3585

To appear in: *Appetite*

Received Date: 22 December 2016

Revised Date: 31 July 2017

Accepted Date: 21 August 2017

Please cite this article as: Velardo S. & Drummond M., Australian children's perceptions of discretionary foods, *Appetite* (2017), doi: 10.1016/j.appet.2017.08.022.

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Title of the article: Australian children's perceptions of discretionary foods

ACCEPTED MANUSCRIPT

Corresponding author details:
Dr Stefania Velardo
Lecturer in Health Promotion & Education

Flinders University
GPO Box 2100
Adelaide SA 5001

Email: Stefania.velardo@flinders.edu.au

Authors names: Stefania Velardo[1, 2] & Murray Drummond[1, 2]

1: School of Education
Flinders University
GPO Box 2100
Adelaide SA 5001

2: Sport, Health & Physical Education Research Centre
Flinders University
GPO Box 2100
Adelaide SA 5001

ACCEPTED MANUSCRIPT

ACCEPTED MANUSCRIPT

1 **Australian children's perceptions of discretionary foods**

2

3 **Abstract**

4 Energy-dense nutrient poor foods and drinks, often referred to as discretionary choices, can
5 contribute a significant amount of energy, fat, sodium and sugar to the diet if consumed in large
6 quantities. Currently many Australian children are consuming a diet that is characterised by large
7 quantities of discretionary items. We undertook a qualitative study to gain a descriptive account of
8 preadolescent children's attitudes and perceptions towards health and nutrition. A series of 6 focus
9 groups and 14 individual semi-structured interviews were conducted with thirty-eight children aged
10 11-12 years, across three state government schools in a socially disadvantaged region of
11 metropolitan South Australia. The naturalistic manner of qualitative inquiry led to several unintended
12 yet highly pertinent emergent themes, including children's perceptions and practices surrounding
13 discretionary food consumption. Our results indicate that while Australian guidelines recommend
14 that discretionary foods are consumed 'only sometimes and in small amounts', children generally
15 held a different belief with respect to what constituted 'sometimes'. Many children identified that
16 discretionary foods should be consumed in moderation to maintain a balanced diet, yet reported
17 consuming these foods frequently. Self-reported discretionary food consumption was grounded in
18 socially constructed experiences valued by the children, who made situational attributions to foods
19 and legitimised discretionary food consumption in certain contexts, for example during the weekend.
20 Overall, there is variability between children's opinions about the acceptable frequency of
21 consumption of discretionary foods compared with national guidelines.

22

23 **Key words:** children; nutrition; discretionary foods; treats

ACCEPTED MANUSCRIPT

ACCEPTED MANUSCRIPT

24 **Introduction**
25 Good nutrition plays a fundamental role in promoting physical and mental health throughout the
26 lifespan.[1] In an effort to optimise population health nutrition, the Australian Government has
27 developed a number of public health guidelines that provide advice in relation to dietary practices.
28 The most recent guidelines, the Australian Dietary Guidelines, encourage children aged 4-18 years to
29 consume a nutritious diet enriched with vegetables, fruits, grains, lean meats and dairy.[2] Such foods
30 comprise the five core food groups. Discretionary choices is the term used to describe foods and
31 drinks that do not fit into the five core foods groups. Discretionary foods are characterised by high
32 energy density and a lack of essential nutrients, and include items such as sweet biscuits, cakes, ice
33 cream, confectionary, commercially fried foods and other fatty, sweet and salty snack foods.
34 Although these foods may form part of a balanced diet, the Australian Dietary Guidelines recommend
35 that they are kept to a minimum and consumed 'only sometimes and in small amounts'.[2] The
36 recommended number of serves of discretionary foods that should be consumed varies by age, sex,
37 height and level of activity. For example, more active 2–3 year-olds are recommended 0-1 serve per
38 day, while older boys and girls aged 14-18 who are not overweight but are taller or more active
39 should consume no more than 5 serves or 2.5 serves per day, respectively. It is important to note that
40 these servings would also include additional consumption of unsaturated spreads and oils, beyond
41 the baseline daily allowance. The Australian Dietary Guidelines discourage discretionary foods since
42 they contribute to excess energy intake and increased risk of chronic disease.[2] In Australia, childhood
43 chronic disease levels remain high. Currently 25% of 2-17 year olds are overweight or obese.[3]
44
45 Many Australian children are not fulfilling dietary requirements. In 2011/12, almost 70% of children
46 aged 5-11 (68.6%) ate two or more serves of fruit on a usual day, compared with 54.4% of 12–17-
47 year-olds. Only 5.2% of adolescents consumed five or more vegetables per day, compared to 3.8% of
48 younger children.[4] Australian children are also consuming a diet high in foods with limited nutrient
49 content. In 2007/08 non-compliance with government guidelines was high for saturated fat and
50 sugar, and excess consumption was evident for various macronutrients, with only a minority of
51 children reporting a limited intake of sugar and dietary sodium in line with recommendations.[5] This is
52 further reflected in recent data, which reinforce the significance of this issue. In 2011/12,
53 discretionary foods on average constituted 37% and 39% of total intake for 4-8 year-olds and 9- 13
54 year-olds in Australia, respectively. For these age groups, items including cakes, muffins, scones and
55 cake-type desserts were the largest food contributors.[4] A more recent study also demonstrated high
56 consumption of discretionary foods amongst 9-10 year-old Australian children. Withrow et al. found

ACCEPTED MANUSCRIPT

ACCEPTED MANUSCRIPT

57 that child participants in a cross-sectional community sample obtained almost half of their daily
58 energy intake from discretionary foods. [6] Evidently, there is considerable scope for improving
59 children's dietary choices by replacing discretionary food items with recommended foods from the
60 five core food groups.

61

62 Previous Australian research has investigated discretionary food provision from the parental
63 perspective. One study indicated that most parents consider it acceptable to provide discretionary
64 foods to children on a daily basis.[7] Another study showed similar results, by investigating parental
65 attitudes and practices related to discretionary food choices with pre-school aged children.
66 Participants justified the provision of discretionary foods on the basis that their children were still
67 consuming healthy items alongside discretionary choices. [8] For many parents this could translate to
68 the provision of discretionary foods every day. Another qualitative study conducted with parents in
69 Western Australia revealed that most parents provide discretionary foods to their children on a daily
70 basis, as a result of using food as a reward/bribe, demonstrating affection and avoiding feelings of
71 deprivation.[9]

72 Research on Australian children's discretionary food consumption tends to prioritize views of parents
73 and caregivers, on the basis that they are responsible for acquiring and purchasing household food.
74 Such research is clearly warranted, given adults' influence on children's dietary behaviours, however
75 it is also important to acknowledge that children are active agents in their social contexts.
76 Specifically, children's progression towards adolescence corresponds to increased independence,
77 self-management and autonomy in food-related decision making.[10] Eating habits established during
78 this stage are also likely to translate into adult behaviours.[11] Understanding children's own needs and
79 interests, as distinct from their parents, thereby constitutes and important step in understanding
80 how children think about health, which provides valuable information for public health practitioners
81 and policy makers.[12] The research reported here is drawn from a larger study that fundamentally
82 positioned children as active, engaged citizens capable of making meaningful contributions to
83 research. We adopted an interpretive approach to elicit the voices of children, in order to understand
84 their attitudes and perceptions towards health and nutrition. The naturalistic manner of qualitative
85 inquiry led to several unintended yet highly pertinent emergent themes *(See Table 1 for summary of*
86 *results)*. In this paper, we focus exclusively on data pertaining to children's understanding and
87 experiences surrounding discretionary food consumption. This is a significant topic worthy of

ACCEPTED MANUSCRIPT

ACCEPTED MANUSCRIPT

88 discussion in its own right, given the lack of child-centred studies in this space. Other study results
89 will be reported elsewhere.

90

91 **Methods**

92 This paper draws on data collected within three government primary schools located in a local
93 metropolitan government area of South Australia. Participating schools were selected from a socially
94 disadvantaged area in metropolitan Adelaide. The area was identified using the Socio Economic Index
95 for Areas (SEIFA).[13] Preadolescent boys and girls aged 11-12 years were invited to participate in the
96 research. Once the lead author identified three consenting schools, information about the project
97 was disseminated to children and their parents by means of scheduled school talks, printed
98 information sheets and forms requesting parental consent. Overall there were 38 children who chose
99 to participate in the study, comprised of 14 boys and 24 girls. Sampling continued until the point of
100 theoretical data saturation, but the final number of participants was also reflective of the number of
101 children who took a genuine interest in the study and wanted to participate by free will. Parents
102 provided written informed consent and children provided verbal and written assent. The study was
103 approved by the Flinders University Social and Behavioural Research Ethics Committee and the South
104 Australian Department of Education and Child Development Research Unit.

105

106 The study was guided by a socio-ecological framework[14] to identify diverse sociocultural
107 facilitators and barriers to children's interaction with, and use of, nutrition information and
108 messages. The framework is widely adopted in public health research as it acknowledges multiple
109 influences on health behaviours and outcomes, at the individual, interpersonal, organisation,
110 community and public policy levels. The research was also grounded in social constructionist theory,
111 which posits that aspects of reality, including health-related experiences and understandings, are
112 fundamentally shaped by social interactions and collective meaning-making.[15]

113

114 A range of data collection methods were employed to facilitate data richness and accommodate for
115 individual preferences. Children were offered the choice to participate in either a group or one-to-
116 one interview onsite at the school, to ensure that they felt safe and comfortable in their
117 surroundings. Focus groups are shown to be an extremely effective data collection method for
118 childhood research, since children are often familiar with the process of a group discussion in
119 school.[16] However, while some children express a preference for the group mode of communication,
120 others are more comfortable engaging in a private discussion. Across the three schools, data

ACCEPTED MANUSCRIPT

ACCEPTED MANUSCRIPT

121 emerged from a series of focus groups (n=6) and in-depth individual interviews (n=14). All focus
122 groups comprised four participants and were homogenous with respect to sex, in line with literature
123 recommendations.[16] Four focus groups were completed with girls and the additional two with boys.
124 Eight individual interviews were subsequently conducted with girls and the remaining six interviews
125 with boys.
126
127 The lead author, who is skilled in qualitative health research, conducted all of the focus group and
128 individual interviews. In order to prevent disengagement, all group and individual interviews lasted
129 between 30-45 minutes and light refreshments were provided to the children at the conclusion of
130 each interview. A semi-structured interview guide was developed and similar questions were used
131 across focus groups and individual interviews, however data from the initial focus groups played an
132 integral role in refining some of the wording of the subsequent interview guide to assist children's
133 understanding of the concepts (*See Table 2*). For example, throughout the course of data collection it
134 became apparent that certain words were more relevant and meaningful to participants (i.e., the
135 term 'healthy eating' was more understandable than 'nutrition') and some questions were refined
136 accordingly.
137
138 All interviews were audio recorded and transcribed verbatim by the lead author, which allowed for
139 authentic representation of participants' verbal contributions.[17] Data were manually coded and
140 analysed using the six-step approach outlined by Braun and Clarke[18] in order to uncover meaning
141 beyond the surface level of the data. Although their analytical method is discussed in the context of
142 qualitative psychology, it was nonetheless useful for providing a step-by-step guide that was followed
143 in the following format: familiarising yourself with the data, generating initial codes, searching for
144 themes, reviewing themes, defining and naming themes and producing the report. Data analysis
145 software was not employed. All data were initially coded by the lead author and each transcript was
146 revisited and recoded in order to ensure that all pertinent data were identified. Selected transcripts
147 were also coded by the second author to cross-check codes. From here on findings were discussed
148 continuously between both authors to ensure trustworthiness. Codes were organised into initial
149 themes by the lead author and then the second author assisted in an ongoing process of reviewing
150 and revising the initial themes, which led to the identification of several key ideas pertaining to
151 children's attitudes and perceptions of health and nutrition *(See Table 1).* Here we report on data
152 related to the third theme, given its unique emphasis on children's perceptions and practices
153 surrounding discretionary food consumption.

ACCEPTED MANUSCRIPT

ACCEPTED MANUSCRIPT

154
155
156 Table 1: Summary of key emergent themes

Research question: What are preadolescent children's attitudes and perceptions of health and nutrition?	
Broad theme	**Key ideas**
#1 A healthy lifestyle package	• Children viewed nutrition and physical activity as interrelated concepts • Children discussed the connection between different types of foods and physical implications for the body • Children viewed nutrition as a personal responsibility
#2 Avoiding 'fatness'	• Children emphasised the correlation between body size and health • Children drew links between poor diet and overweight/obesity • Children emphasised the need to avoid 'fatness' through their individual food choices
#3 Good versus bad foods	• Children alluded to a 'good/bad' food dichotomy, where the 'right' foods provided a direct contrast to 'bad' discretionary foods • Children verbally acknowledged that discretionary foods should be consumed 'sometimes' and 'in moderation' yet their self-reported consumption practices often contradicted this notion • Children legitimised consumption of discretionary foods in certain contexts, for example as part of their evening dessert or during the weekends, whilst eating with friends

157
158 Table 2: A selection of interview questions relevant to the results reported herein, derived from the original
159 interview guide

Examples of interview questions ***Pause and probe techniques were also purposefully utilised to elicit further responses. In some cases, where children did not understand the term 'nutrition', the term 'healthy eating' was substituted.**
o What are your favourite foods to eat? o Why are these your favourite foods to eat? o What do you think the word nutrition means? o What examples of nutrition do you see around you? o How about foods that might lack nutrition? o Is nutrition important? Why/why not? o How do you feel when you eat nutritious foods? o How do you learn about nutrition? o Where do you learn about nutrition? o Do you ever have any questions about nutrition? o What kinds of things help kids to have good nutrition? o Do you try to follow what you have learned about nutrition? o Is it always easy to eat nutritious foods?

160
161 **Results**
162 Children's understanding of the concept of nutrition reflected an awareness of the importance of
163 healthy eating. Throughout the interviews, a clear dichotomy emerged concerning the value of

ACCEPTED MANUSCRIPT

ACCEPTED MANUSCRIPT

164 different foods. Children were inclined to categorise foods in terms of straight alternatives, such as
165 good or bad. They indicated that knowing how to achieve a healthy diet was based on consuming the
166 *right foods* that traditionally embody health, namely fruit and vegetables, combined with the
167 limitation of energy-dense foods. Water was identified as a healthy beverage versus sugary soft
168 drinks. Healthier alternatives were often distinguished through their physical effects on the body. For
169 example, some children discussed the energising effects of fruit and vegetables by using phrases such
170 as *feeling good* and *ready to go.* In describing how she felt consuming healthy foods, one girl
171 explained;

172 *Well I feel healthier, I feel like I'm doing something good.*

173 Nutritious foods were perceived to be the antithesis to discretionary foods, which the children also
174 described as 'sometimes foods', 'treats' or 'junk foods'. Discretionary foods were most commonly
175 described as takeaway products including McDonald's, Hungry Jack's, Kentucky Fried Chicken (KFC),
176 pizza, fish and chips, and snack foods such as chips, chocolate and lollies. Takeaway foods were
177 commonly described as *fatty*, *greasy*, *salty* and *oily* by the children, while sweet snacks were
178 associated with high sugar content. The children consistently described such foods in terms of their
179 delicious taste, in contrast to other perceived healthier alternatives;
180

181 *Some things you can tell are unhealthy. Like if you bite into a cream bun the cream in it is*
182 *sweet so they must have put sugar in it, and you can taste that it wouldn't be healthy.*
183

184 Despite their desirable taste, a number of negative connotations were evoked by the discussion of
185 discretionary foods. For example, children pointed out their *draining* effects in contrast to the
186 sustained energising effects of health foods, by reporting that these foods provided them with an
187 initial burst of energy that soon depleted. While healthy foods were deemed *good*, the children
188 frequently used adjectives such as *bad* or *naughty* to describe discretionary foods, implying feelings
189 of guilt attached to their consumption. Describing foods as *naughty* specifically implied that they felt
190 the need to be disciplined to resist the temptation of these foods. Whilst reflecting on her concerns
191 in relation to the difficulty in choosing healthy alternatives, one girl pondered;
192

193 *If you eat junk food you might want it every day and you forget about all the healthy stuff.*
194 *When I have the sugary stuff you're [sic] too busy worrying about how much junk food you*
195 *want. It's addictive.*

ACCEPTED MANUSCRIPT

ACCEPTED MANUSCRIPT

196

197

198 Another girl explained her experience of consuming confectionary;

199 *You kind of feel like you've done something naughty, like mum is going to tell you off*

200 Children employed the terms *balance* and *variety* to legitimise discretionary food intake. Most
201 children stated that discretionary foods should be consumed in moderation in order to maintain a
202 balanced diet. While girls appeared more cautious about over-consuming takeaway meal choices,
203 boys expressed the belief that consuming these foods once to twice per week was moderate. For
204 example, one boy exclaimed "*You can only have McDonald's a little bit, like once a week.*" The
205 following dialogue between the lead researcher and one of the boys' focus groups further captures
206 this sentiment, highlighting a limited understanding of recommendations:

207 *Researcher: Would you buy a Big Mac?*

208 *Participant 1: Yeah, it does taste good, but I wouldn't overdo it because I don't want*
209 *myself to get fat.*

210 *Participant 2: You know heaps of people are obese because of McDonald's, because*
211 *they eat too much unhealthy stuff.*

212 *Researcher: In your opinion, how often can you eat McDonald's to not overdo it?*

213 *Participant 2: I have it once a week.*

214 *Participant 3: About twice a week*

215 *Participant 4: About five times a month.*

216 *Participant 1: Yeah once a week.*

217

218 Discretionary foods were more acceptable in certain social situations. For example, children
219 frequently cited evening dessert as a legitimate time to indulge in extra foods such as ice-cream and
220 chocolate. Using personal pocket money to purchase snacks was also commonly reported, including
221 confectionary, potato crisps, ice-cream and energy drinks. Children consistently reported consuming
222 these items more frequently over the weekend. This was accompanied by a shift in attitude related
223 to the weekend and its association with fun and enjoyment. For many, treating themselves and
224 trading off health was an enjoyable ritual, and participants reported eating potato chips, chocolate
225 and confectionary items to a greater degree, as well consuming more takeaway meals with families

ACCEPTED MANUSCRIPT

ACCEPTED MANUSCRIPT

226 and friends. One of the prime requirements for a weekend snack was that it should taste good. For
227 many of the young boys weekend activities largely centred on riding bikes around the
228 neighbourhood, visiting the local skate park, and going out with friends to eat. One boy detailed his
229 weekend leisure time and its connection to food, talking about time spent eating with friends:

230 *On the weekends I don't care. I'll just go to my mate's house and I'll have what's there.*
231 *We'll just have chips and stuff … and sometimes we go riding to the school... We'll get*
232 *hot chips and normal chips.*

233 Other children, like this boy, reported spending time with friends on Saturday or Sunday which would
234 typically involve purchasing a lunchtime takeaway meal or snack from the local shopping mall, or the
235 small neighbourhood delicatessen or Independent Grocer of Australia (IGA). Girls also reported
236 spending time with friends and frequenting both of these locations over the weekend. For some
237 children a trip to the shopping mall was associated with fast food from McDonald's or KFC. Food
238 formed an integral part of these experiences and consuming discretionary foods was a normalised
239 and legitimised behaviour.

240 Negative emotions also played an important role in the consumption of discretionary foods. Girls, in
241 particular, consistently demonstrated a positive reaction to chocolate, based on its taste and feel-
242 good qualities. Despite acknowledging it as a discretionary food, many girls reported eating chocolate
243 frequently in order to improve their mood or general wellbeing, as evidenced by girls' comments
244 across numerous interviews:

245 *If you're sad you eat ice-cream and chocolate. Like fruit doesn't really do anything,*
246 *sometimes you can't really taste it when you're crying, but you can definitely taste the*
247 *chocolate and ice-cream because it's got so much sugar in it.*

248 *Sometimes I care about health when I go to the shop, but not always. I can't explain it but*
249 *sometimes I just really want something that's yum. I like to see what's healthier only if I'm in*
250 *the mood.*

251 *Whenever I feel sad I eat chocolate. Chocolate makes me happy.*

252 This idea was similarly echoed in one of the boys' focus groups:

253 *Researcher: Is it always easy to eat nutritious foods?*

ACCEPTED MANUSCRIPT

ACCEPTED MANUSCRIPT

254 *Participant 1: It depends. When you're feeling bad you eat chocolate to make you feel*
255 *better, or ice-cream. It makes you feel awesome, it makes you relax.*

256 *Participant 2: Yeah if I'm in a bad mood I like to eat chocolate*

257 *Participant 3: It's actually proved (sic) that it makes you feel better*

258 **Discussion**

259 This study reinforces the understanding that social constructions of health and sociocultural norms
260 promoting healthy and unhealthy behaviours are pertinent in children's lives. There was mutual
261 recognition that discretionary foods could be consumed as part of a healthy diet and children drew
262 on broad health promotion messages in their discussions around discretionary foods as 'sometimes
263 foods', in line with government health discourses. Furthermore, children categorised takeaway items
264 and snack foods as discretionary items, as reflected in national dietary guidelines. However, despite
265 acknowledging the concept of moderation, children's self-reported practices were largely
266 contradictory to this statement. This finding is reflected in the results of a recent Australian
267 investigation, which estimated that approximately 25% of children in New South Wales are
268 consuming fast foods at least weekly.[19] In line with additional Australian research relating to
269 provision of frequent treats, it is probable that children's attitudes surrounding acceptable levels of
270 discretionary food consumption are reinforced within the home setting[7,8]. This could be further
271 enhanced in socioeconomically disadvantaged settings where some parents might provide
272 discretionary foods to mitigate a sense of financial deprivation.[9]

273

274 In considering children's attitudes surrounding acceptable levels of discretionary food consumption,
275 it is important to reflect upon the guidelines themselves. The current Australian guidelines around
276 discretionary food servings are arguably complex and not fully transparent. The recommended
277 number of serves of discretionary foods that should be consumed per day varies by age, sex, height
278 and level of activity. This number should also encapsulate additional unsaturated fats and oils
279 consumed within one day. Beyond the complexity of these recommendations, the variations in
280 serves, based on individual energy needs, are only reported in the written summary of the Australian
281 Dietary Guidelines. They are not reflected in the accompanying Australian Guide to Healthy Eating,
282 which specifically translates dietary recommendations into general food and lifestyle patterns for
283 Australian consumers in an easy-to-read pictorial format. This format is widely used since it visually
284 displays five core food groups on a plate and outlines the importance of consuming foods in
285 appropriate proportions. The pictorial guide does not prescribe the number of serves of discretionary

ACCEPTED MANUSCRIPT

ACCEPTED MANUSCRIPT

286 food that should be consumed, but simply reiterates that they should be consumed 'only sometimes
287 and in small amounts'. To enhance compliance with dietary recommendations, the guidelines, in all
288 formats, ought to be more descriptive in their advice surrounding discretionary food consumption. A
289 large mixed-methods study revealed that Australian consumers are confused by terminology related
290 to frequency and quantity of food intake[20], which could offer some explanation for the frequent self-
291 reported consumption of discretionary choices in our research. Increasing transparency in the
292 Australian guidelines, by means of more descriptive recommendations around daily servings, might
293 thereby support children and families to limit discretionary food intake.

294

295 Children's admission that they felt guilty eating discretionary foods further suggests that they
296 demonstrate a sense of personal responsibility in relation to food, reflecting broader risk and
297 individualist discourses. However, it was interesting to note that self-reported unhealthy food
298 consumption was legitimised through socially constructed food experiences. A sociological
299 exploration of food highlights the relevance of past events, cultural values, and structural factors that
300 shape food practices. Consuming to belong, or to engage in a particular experience, emerged as an
301 interesting finding within this study, further emphasising the social construction of discretionary
302 foods and conditions of consumption. As reflected in previous research[21], there was a reported
303 increase in unhealthy food consumption on the weekend, which was mutually accepted as a time for
304 enjoyment with friends and families. Many girls reported meeting their friends at the local shopping
305 mall and consuming takeaway; an experience perceived to be fun. For the boys in particular,
306 consuming certain foods on the weekends was a marker of identity, with high self-reported takeaway
307 consumption. Although boys represented a minority of participants (37%), it was clear that takeaway
308 food formed an integral part of the social experience of spending time with friends. This finding is
309 noteworthy in light of the most recent Australian National Health Survey which highlights concerning
310 data around adolescent males' high consumption of soft drink, burgers and chips. Approximately 25%
311 of 14–18 year-old boys consume a burger on any given day, compared to 7% of the Australian
312 population[4] which could be linked to this sociocultural food experience.

313 We also noted a tendency for children to report consuming foods to ease feelings of sadness. Many
314 of the children admitted that despite understanding the implications of consuming too many
315 discretionary foods they were willing to consume such foods as a means to satisfy their mood or ease
316 emotional distress. Using food to soothe emotions was more evident amongst girls, in particular,

ACCEPTED MANUSCRIPT

ACCEPTED MANUSCRIPT

317 using chocolate to provide comfort, which is consistent with the observation of other researchers
318 whose findings point towards a socially constructed comfort food environment.[22-25] This could
319 certainly be attributed to the marketing of foods to evoke emotion, for example confectionary items
320 offering comfort and joy.[26] Conceptualising the consumption of rich, sugary foods in this way certainly
321 raises concerns around emotional eating and associated physical and mental health problems for
322 children[24] and further research is necessary to the understand the extent of this issue.
323
324 These examples illustrate the significance of socially constructed foods and their connotations.
325 Perception of social norms appears to be a crucial factor predicting children's understandings of
326 health and the benefits attached to certain foods. The social environment plays a significant role in
327 shaping norms and constructions around food and health. These cultural norms are reinforced
328 through interpersonal and organisational networks, as children interact to exchange ideas, thereby
329 creating a system of shared meaning. One might conclude that the presence and ubiquity of
330 discretionary foods is firmly entrenched within a contemporary lifestyle that people mutually
331 understand. Recent Australian research indicates that children and adolescents are still strategically
332 targeted by unhealthy food and beverage advertisements through traditional media, such as
333 television[27] as well as contemporary media platforms including branded websites, social media and
334 mobile applications.[28] Challenging social norms will thereby play an important role in building
335 children's health literacy competencies through educational activities.[29] However, such efforts must
336 not stand alone, given the social, cultural and familial embeddedness of discretionary food
337 consumption in society and the difficulties that many people arguably face in achieving 'balance' and
338 meeting dietary guidelines. Beyond educational approaches, policy reform requires a much stronger
339 and more concerted effort to address food environments and the vast availability of discretionary
340 items. More stringent regulation of advertisements and promotion schemes that pervasively
341 endorse, entrench, and normalise discretionary food consumption is a necessary first step.
342
343 **Limitations**
344 This research adopted a qualitative, interpretive approach on the basis that such methods are
345 incredibly useful in ascertaining sociocultural factors associated with health.[30] The qualitative nature
346 of this small study means that findings cannot be generalised to the wider population. It is also
347 important to note that the findings were also informed by a sex-biased study population. Given that
348 social norms are integral to children's experiences, there is the possibility that social desirability bias
349 may have impacted on the results. Two potential motivations should be noted; one that relates to

ACCEPTED MANUSCRIPT

ACCEPTED MANUSCRIPT

350 children achieving the acceptance of the researcher through desirable responses[31], and the second
351 that is grounded in a preadolescent subculture that emphasises peer acceptance. Further work is
352 certainly warranted to better understand children's attitudes, beliefs and practices related to
353 discretionary food consumption.
354

355 **Conclusion**

356 This study suggests variability between children's opinions about the acceptable frequency of
357 consumption of discretionary foods compared with national guidelines. Children demonstrated basic
358 nutrition knowledge by highlighting the importance of a balanced diet. Yet while Australian
359 guidelines recommend that discretionary foods are consumed only 'sometimes and in small
360 amounts', children generally held a different belief with respect to what constituted 'sometimes' and
361 reported consuming these foods frequently. Children's perceptions were largely grounded in socially
362 constructed food experiences and sociocultural norms that legitimise discretionary food
363 consumption. Given the social embeddedness of discretionary foods and their potential impact on
364 children's health, this issue warrants further investigation and consideration in public health
365 initiatives.
366
367

368 **Acknowledgements:**

369 Thank you to all of the children who shared their stories and experiences with us. Without their
370 consent this research would not have been possible. We also wish to extend our thanks to the
371 reviewers and Section Editor for their valuable feedback on the manuscript.
372
373

374 **Funding**

375 This research did not receive any specific grant from funding agencies in the public, commercial, or
376 not-for-profit sectors.

ACCEPTED MANUSCRIPT

ACCEPTED MANUSCRIPT

377 **References**

378 1. National Health and Medical Research Council. Dietary guidelines for children and adolescents in
379 Australia. Canberra: Commonwealth of Australia;2003.
380 2. National Health and Medical Research Council. Australian dietary guidelines (Publication. no. N55).
381 Canberra: Commonwealth of Australia; 2013.
382 3. Australian Bureau of Statistics. Australian health survey: Updated results 2011-2012 (Cat. no.
383 4364.0.55.003). Canberra: ABS; 2013.
384 4. Australian Bureau of Statistics. Australian health survey: Nutrition first results, foods and nutrients
385 2011-12 (Cat. no. 4364.0.55.007). Canberra: ABS; 2014.
386 5. Department of Health and Ageing. Australian national children's nutrition and physical activity survey:
387 Main findings (Publication No. P3-4592). Canberra: Commonwealth of Australia; 2007.
388 6. Whitrow MJ, Moran L, Davies MJ *et al*. Core food intakes of Australian children aged 9–10 years:
389 Nutrients, daily servings and diet quality in a community cross-sectional sample. *J Hum Nutr Diet* 2016; **29**:449-
390 457
391 7. Hesketh K, Waters E, Green J *et al*. Healthy eating, activity and obesity prevention: A qualitative study
392 of parent and child perceptions in Australia. *Health Promot Int* 2005;**20**:19-26.
393 8. Petrunoff NA, Wilkenfeld RL, King LA *et al*. 'Treats','sometimes foods','junk': a qualitative study
394 exploring 'extra foods' with parents of young children. *Public Health Nutr* 2014;**17**:979-86.
395 9. Pescud M, Pettigrew S. Treats: low socioeconomic status Australian parents' provision of extra foods
396 for their overweight or obese children. *Health Promot J Austr* 2014;**25**:104-9.
397 10. van der Horst K, Oenema A, Ferreira I *et al*. A systematic review of environmental correlates of
398 obesity-related dietary behaviors in youth. *Health Educ Res* 2007;**22**:203-26.
399 11. Mikkilä V, Räsänen L, Raitakari O *et al*. Longitudinal changes in diet from childhood into adulthood
400 with respect to risk of cardiovascular diseases: The Cardiovascular Risk in Young Finns Study. *Eur J Clin Nutr*
401 2004:**58**:1038-45.
402 12. Velardo, S., Drummond, M. Emphasizing the child in child health literacy research. *Journal of Child*
403 *Health Care* 2017: **21**: 5-13.
404 13. Australian Bureau of Statistics. Socio-economic indexes for areas (SEIFA) - Technical paper (Cat. no.
405 2033.0.55.001). Canberra: ABS; 2013.
406 14. McLeroy, KR, Bibeau, D, Steckler, A, Glanz, K. An ecological perspective on health promotion programs.
407 *Health Educ Behav* 1988:**15**: 351-377.
408 15. Burr V. *Social constructionism.* Routledge; 2015.
409 16. Morgan M, Gibbs S, Maxwell K *et al*. Hearing children's voices: Methodological issues in conducting
410 focus groups with children aged 7-11 years. Qual Res 2002: **2**:5-20.
411 17. Halcomb E, Davidson P. Is verbatim transcription of interview data always necessary? *Appl Nurs Res*
412 2006: **19**:38-42.

ACCEPTED MANUSCRIPT

413 18. Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol* 2006: **3**:77-101.
414
415 19. Hardy L, King, L, Espinel, P *et al*. NSW Schools Physical Activity and Nutrition Survey (SPANS) 2010: Full
416 Report. Sydney: NSW Ministry of Health; 2011.
417 20. King L, Watson WL, Chapman K *et al*. Do we provide meaningful guidance for healthful eating? An
418 investigation into consumers' interpretation of frequency consumption terms. *J Nutr Educ Behav* 2012:**44**:59-
419 63.
420 21. Holsten JE, Deatrick JA, Kumanyika S *et al.* Children's food choice process in the home environment. A
421 qualitative descriptive study. *Appetite* 2012: **58**:64-73.
422 22. McKinley M, Lowis C, Robson P *et al*. (2005) It's good to talk: Children's views on food and nutrition.
423 *Eur J Clin Nutr* **59**:542-51.
424 23. O'Dea J. Why do kids eat healthful food? Perceived benefits of and barriers to healthful eating and
425 physical activity among children and adolescents. *Journal of the American Dietetic Association* 2003: **103**:497-
426 501.
427 24. Cartwright F, Stritzke WG, Durkin K *et al.* Chocolate craving among children: Implications for
428 disordered eating patterns. *Appetite* 2007: **48**:87-95.
429 25. Pretlow RA. Addiction to highly pleasurable food as a cause of the childhood obesity epidemic: a
430 qualitative Internet study. *Eat Disord* 2011**:19**:295-307.
431 26. Michels N, Sioen I, Braet C *et al.* Stress, emotional eating behaviour and dietary patterns in children.
432 *Appetite* 2012:59:762-9.
433 27. Watson WL, Johnston A, Hughes C, Chapman K. Determining the 'healthiness' of foods marketed to
434 children on television using the Food Standards Australia New Zealand nutrient profiling criteria. *Nutrition &*
435 *Dietetics*. 2014: **71**:178-83.
436 28. Boelsen-Robinson T, Backholer K, Peeters A. Digital marketing of unhealthy foods to Australian
437 children and adolescents. *Health Promot Intern* 2016: **31**: 523-533.
438 29. Velardo S. The nuances of health literacy, nutrition literacy and food literacy. *J Nutr Educ Behav*
439 2015:**47**:385-389.
440 30. Bradley E, Curry L, Devers K. Qualitative data analysis for health services research: Developing
441 taxonomy, themes, and theory. *Health Serv Res* 2007*:***42**:1758-72.
442 31. Nolte S, Elsworth GR, Osborne RH. Absence of social desirability bias in the evaluation of chronic
443 disease self-management interventions. *Health Qual Life Outcomes* 2013*:* **11**:114-23.

ACCEPTED MANUSCRIPT