Australian parents’ views on their 5–6-year-old children’s food choices

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SUMMARY
The home food environment is central to the development of healthy eating behaviours, but associations between the home food environment and children’s food choices are not yet fully understood. The aims of this study were to explore parents’ views regarding factors that influence children’s food choices and parents’ decision-making regarding the food they provide to their children. In-depth one-on-one interviews were conducted using a semi-structured interview schedule. Key concepts and themes were coded independently by two investigators. Participants include seventeen parents (16 mothers and 1 father) of children in their first year of formal schooling (aged 5–6 years). Five main themes emerged from the interviews: food marketing, food availability/food exposure, feeding strategies, modelling of eating and opportunities for food involvement. Parents believed that food marketing influenced their child’s food preferences but differed in the ways they managed these influences. The food made available to children was also seen to influence what a child ate. Yet, although some parents believed it was the parents’ role to determine what foods were made available to their child, others offered food on the basis of the child’s tastes or preferences. The use of food as a reward was a feeding strategy employed by many parents. Family mealtimes were seen as an important opportunity for modelling of eating behaviour by parents. Peers were also seen to influence children’s food preferences and eating behaviour. Finally, many parents believed that involving children in the preparation of food had a positive impact on children’s food choices. Associations between the home food environment and children’s food choices are complex and involve multiple mediators. Parents’ views on the promoters and reinforcers of their decision-making regarding food and their child’s food choices provide useful insights into these mediating factors. Increased understanding of these relationships is likely to enhance obesity prevention efforts.

Key words: parental views; child diet; obesity prevention

INTRODUCTION
The prevalence of childhood overweight and obesity is increasing worldwide at a rapid rate (Lobstein et al., 2004). Given that these conditions are persistent (Hesketh et al., 2003) and have important health consequences throughout life (Dietz, 1998; Must and Strauss, 1999), halting this rising prevalence is an important public health priority (World Health Organization, 1999). Obesity genesis is complex, with diet, physical activity and sedentary behaviours all contributing to the recent dramatic shifts in prevalence. Dietary data from throughout the western world suggest that children’s diets are not consistent with dietary recommendations of health authorities (Gregory et al., 1995; Krebs Smith et al., 1996; Munoz et al., 1997; Campbell and Crawford, 2001) and, consequently, are likely to impact on obesity prevalence. Although there is a wide agreement regarding the precursors of overweight and obesity, understanding of the most effective means by which to prevent unhealthy weight gain remains poor (Campbell et al., 2002). Given the rapid rise in obesity prevalence and the paucity of knowledge regarding how we may effectively halt this rise, all
aspects of the child's environment are important to consider (Davison and Birch, 2001).

It is likely that a child's eating behaviours are learnt in early childhood and that the home environment exerts substantial influence on the development of these behaviours (Birch and Fisher, 1998; Campbell and Crawford, 2001). Quantitative studies have considered relationships between children's food choices and various environmental factors, such as the influence of mother's nutrition knowledge (Contento et al., 1993), the influence of television viewing (Robinson and Killen, 1995; Coon et al., 2001), the impact of parental feeding styles (Birch and Fisher, 1998) peer pressure (Birch, 1980) and the role of parental modelling (Birch et al., 1982). Qualitative studies have provided insights regarding maternal perceptions of children's weight (Jain et al., 2001; Sherry et al., 2004) and maternal beliefs and practices about child feeding (Baughcum et al., 1998; Sherry et al., 2004). However, no studies have previously sought to describe parental views on the determinants of young children's food choices. Given the likely importance of the family environment on the eating behaviours of young children and the fact that parents are the principal regulators of children's eating and food supply, it is important to document these perspectives. Understanding parental views on these relationships will inform interventions that seek to prevent obesity in children.

The aims of this study were to describe parents' views regarding the factors in a child's environment they believe influenced the development of their 5–6-year-olds' food choices and the issues that impact on their food-related parenting practices and their decision-making about the food they provide to their children. Parents of 5–6-year-old children were selected because of these children's exposure to multiple potential influences including family, school and for many children pre-school or childcare.

METHODS

Sample selection
The target group was parents of 5–6-year-old children attending their first year of primary school. Purposive sampling techniques were used to recruit schools from both high and low socio-economic suburbs as indicated by area-based socio-economic data [Australian Bureau of Statistics Socio-Economic Indexes For Areas (SEIFA) (Australian Bureau of Statistics, 1998)]. In so doing, we aimed to sample a diverse range of views. To achieve this, six schools in high socio-economic suburbs and five schools in low socio-economic suburbs within a regional town (population of 200,000) in Victoria (Australia) were randomly selected. All but one school (high socio-economic suburb) consented to participate.

At each participating school, all students in their first year of education (aged 5–6 years) were given a parent information letter to take home. Interested parents were asked to phone the researchers, at which time willingness to participate was confirmed and an interview was scheduled (at a time and place of the participant's choice). All parents who phoned the research team were subsequently interviewed. Sampling was ceased when the interviewer ascertained that saturation had been achieved.

Ethics approval for this study was granted by the Deakin University and the Department of Education, Victoria.

Data collection
Data were collected via in-depth one-on-one interviews. This qualitative technique enabled the researcher (K.J.C.) to comprehensively explore each parent's perceptions regarding the influences on children's eating in a non-threatening environment.

Interview questions were developed by the research team and pre-tested for clarity, comprehension and suitability with a group of six mothers. The interview sought to elicit parental views regarding factors they considered influenced the development of their 5–6-year-old child's food choices and to explore parents' decision-making regarding the food they provide to their children. The interview used a semi-structured format (Patton, 1990) based on an interview schedule (Table 1). Specific open-ended questions were used to explore aspects of family food environments (domains) reported in the quantitative literature, and anecdotally, as likely influences on children's food choices. Home environment domains included home food availability (foods purchased and influences on foods purchased), modelling of cooking and eating (including opportunities for children's involvement in food purchase and preparation), peer modelling, mealtime rules...
and feeding strategies and the influence of television. All interviews were initiated with the generic question ‘What has had an influence on the foods your child enjoys and prefers?’ The order of delivery of questions was determined by participants’ responses. So, for example, if the subsequent response to the generic question related to peers, questions in the peer modelling domain (as set out in Table 1) were asked next. When each response had been fully explored, the interviewer asked the generic question again and again pursued questions in the schedule appropriate to the response. In the event that a new domain was suggested, the interviewer prompted the participant to discuss this domain in-depth. In the event that a domain outlined on the interview schedule was not suggested by the respondent, the interviewer prompted by asking questions from that domain. For example, if modelling of eating had not been raised, the interviewer would ask ‘Tell me about food buying and cooking in your family’. The response would be followed by the remaining questions in that domain. The interviewer posed all questions in an open-ended format and in a form for which no correct answer could be implied.

All interviews were conducted by the same interviewer (K.J.C.) and lasted between 50 and 65 min. Interviews were tape-recorded and transcribed verbatim. Participating parents received a free lunch-box as thanks for their participation.

**Participants**

Seventeen parents were interviewed. As detailed in Table 2, participants were 16 mothers and one father, aged 26–42 years. Total years of education (a proxy for socio-economic status) within the sample varied substantially, with six participants having completed university training, five having completed high school and six having ceased education prior to completing high school. All were married. Five of the 17 nominated ‘home duties’ as their occupation.

Using a standard qualitative methodological approach, known as the open coding method of thematic analysis (Stewart and Shamdasini, 1990; Ezzy, 2002), each interview transcript was scrutinized for key concepts and themes. Statements expressing similar sentiments were grouped into themes that represented the main messages conveyed by the data. For example, a parent might identify a child as enjoying food they have shared at school with a friend—which would be grouped under the peer modelling theme. To minimize bias, all interviews were independently scrutinized by a second researcher (D.A.C.) and any discrepancies in the allocation of themes were discussed and resolved.

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**Table 1: Interview schedule**

<table>
<thead>
<tr>
<th>Family food environment domain</th>
<th>Questions/prompts</th>
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<tr>
<td><strong>Home food availability</strong></td>
<td>Tell me about the sorts of foods that you tend to need to stock-up on every time you visit the supermarket or shop. Tell me about the sorts of things that might influence the foods and drinks you buy. (e.g. own and child’s food preferences, availability, cost, ability to store, health concerns)</td>
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<tr>
<td>Modelling of cooking and eating</td>
<td>Tell me about food buying and cooking in your family. What do you think affects the kinds of food/dishes the cook in the house will prepare for the family (e.g. food likes/dislikes, time, cost, the kids will eat it, convenience) What are your thoughts about parents and children eating together?</td>
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<tr>
<td>Peer modelling</td>
<td>Tell me about your child’s eating now he/she has started school. There is often discussion about kids wanting the food that other kids have. What are your thought on this?</td>
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<tr>
<td>Mealtime rules/feeding strategies</td>
<td>Tell me about mealtime rules and rituals in your family. (e.g. not to leave the table until the family has finished eating; can only have dessert if the main meal is eaten; must eat all the food on the plate; don’t have television on during mealtimes) Tell me about what you would do if your child was refusing to eat their dinner. Tell me also about any rules you might have about eating at other times throughout the day.</td>
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<tr>
<td>Television influence</td>
<td>There seems to be a lot of discussion at the moment about food advertising and children’s eating. Do you have any thoughts about this?</td>
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RESULTS

Five main themes regarding parental views of the influences on 5–6-year-old-children’s diets emerged. Broadly, these encompassed food marketing, food availability/food exposure, feeding strategies, modelling of eating and opportunities for food involvement.

**Food marketing**

The influence of food marketing strategies, including television advertising, the use of associated toys and gimmicks and the promotion of foods through schools were considered by most parents (11/17) to be effective and pervasive influences on their children’s food preferences. For example:

‘Even on TV they see something like chocolate or something like that and it really gets into their heads... they pick it up very easy... Kids today are so more advanced than us- it’s incredible’. Interview 13

‘Another thing that I reckon influences kids is these Pokemon™ cards. Anything that is advertised on TV with “you get a free Pokemon card” or you get a free toy it’s always “I want that, I want that” not because he wants the food but because he wants the toy’. Interview 4

However, while acknowledging the impact of food marketing on children’s requests for foods, the quotes below highlight that the ways in which parents managed children’s requests for advertised foods varied.

‘I don’t get them for him. He doesn’t eat very well at all so I figure I am not going to replace fruits and stuff with chocolates’! Interview 4

‘The sorts of things they ask for are the lollies and biscuits and unfortunately, with the lifestyle that we lead, we do tend to fall into that trap of “well it’s been advertised on TV and if that’s what they want then I’ll buy it”’. Interview 8

**Food availability/food exposure**

It was commonly noted by parents (14/17) that the food made available to a child was likely to influence the food a child eats, for example:

‘Probably the most obvious thing (influencing a child’s food preferences) to me is what is available. If we have certain foods in the house she will eat them, if we don’t, she doesn’t ask for them’. Interview 14

The forces brought to bare on the foods parents chose to make available were complex, thus we saw that some parents believe that food availability should be determined by parents. For example:

‘Sometimes he will come home and ask for a sandwich, or he’ll ask for a chocolate or a Coco Pop bar and I say “no, if you are hungry you have a sandwich”’. Interview 4

‘I think it is important to make sure that they do try different things and are not given in to and say “oh he doesn’t eat this or he doesn’t eat that”... I think as

<table>
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<th>Table 2: Demographic profile of participants</th>
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However, the belief that the availability of food may influence food preferences was complicated by the fact that children’s food preferences determined the food made available to children. This concession to children’s tastes appeared to be influenced by a range of beliefs such as the belief that children have particular tastes (different to adult tastes); that children have a right to choose their own foods; that children might not eat enough if the food they want is not available and that peace at mealtimes is the priority. For example:

‘Because I know the older one will eat vegetables she gets a full range of whatever I have cooked up. The little one will eat mainly potato and I will give her carrots but I couldn’t give her cauliflower because I know she doesn’t like it so I don’t put it on her plate’. Interview 16

‘Well I have bought Coco Pops™ and Fruit Loops™ recently only because they hadn’t been eating their breakfast and I thought I am just happy for them to eat something for breakfast even if it’s not good for them…’ Interview 9

‘I only buy white bread…. The kids only eat white bread none of this brown stuff or birdseed stuff’. Interview 4

‘I wouldn’t serve the children food they didn’t like because I think we spend a lot of time telling them “you have to do this, you can’t do this, you should do this”, when it comes to food, I think that for us, the table at dinner time is very important’. Interview 1

Some parents also recognized that their personal views regarding the impact of diet on children’s health had some influence on the food they provided to their children.

‘You realise that your puritanism (about your child’s diet) doesn’t guarantee results. I think your perception of what you are doing changes when you realise that actually not eating ideally is not going to do the degree of damage to the child that you think’. Interview 2

**Feeding strategies**

The use of food as a reward was frequently directly mentioned (7/17) as a tool which parents used to encourage intake. Most often, this involved the use of dessert as a motivator to get children to finish or at least to taste their meals. For example:

‘We don’t have dessert…unless I know it’s going to be particularly troublesome meal and I will do the “well if you eat all your tea you can have ice-cream”.’ Interview 7

For most of these parents, this was a reasonable and practical solution to children’s food fussiness; however, for some, there was the recognition that this was not necessarily a desirable feeding strategy. Despite this, the use of food as a reward persisted as demonstrated in the following quotes.

‘I am unhappy that I fell into the trap of using food as a comfort or a reward—I didn’t want to do that but it just happened!. It’s so easy—someone’s crying “here – have a biscuit” and they always ask for something when you are on the phone and they know that you are going to shove something at them’. Interview 7

‘The rule is, if they don’t try it then there is nothing else at the end. I know that they say that you shouldn’t use that rule but it works very well for me’. Interview 11

**Modelling of eating**

Opportunities for parents to model eating focused on opportunities for parents to have the evening meal with their children at the dining table. This meal appeared to be important to parents (11/17) for a variety of reasons. For example, mealtimes were seen by some of these parents to provide the opportunity for family discussion (4/11), the environment in which to learn about table manners (4/11) and in which to learn about ‘proper meals’. For example:

‘I suppose that we sit down at the table and we try and talk and we try and always have vegetables—a good dinner’. Interview 10

For some parents (4/11), there was also a belief that eating with children was important because it provided the opportunity to teach them about what to eat. This belief reflected these parents’ views that they act as role models for eating, for both likes and dislikes. It was generally agreed that the whole family should be served the same meal and that mealtime was a time for eating and talking and not for other activities such as reading, watching television or playing games.

‘I think if they see grown ups eat something then they will like it as well. They are pretty good really and they do copy”. Interview 13

‘the evening meal—to me it is quite important that there is one time during the day when we come together. There is no TV, it is simply a meal to eat and time to talk’. Interview 2
Peers were also considered by some parents to be important influences on children’s food preferences and intakes. For example:

‘I think now he is at school, I think that other children are playing a big role. “Mum I really want this in my lunchbox”, and “I am not going to eat that”, because he sees what other people eat’. Interview 5

Opportunities for food involvement

Most parents (10/17) supported the view that involving children in the preparation, cooking or growing of food had a positive impact on food choices. For example:

‘I try to get them into the kitchen as much as I can, especially if I know that they don’t like the dish that I am preparing’. Interview 3

‘Last summer we tried growing vegetables and my daughter was involved in that process, as was my son, and they got a lot of enjoyment out of that. We found that they were more likely to eat broccoli and capsicum if they had grown it’. Interview 14

However, despite believing that involving children in food-related tasks was effective, parents also noted, as highlighted in the following quote, that this could be difficult to achieve.

‘My children don’t get involved in cooking as often as I’d like, but then again it depends on my mood . . . . I don’t have the luxury of saying “oh yes, we’ll make pancakes”. I’d like to be more like that but life is busy’. Interview 10

DISCUSSION

This exploratory study of parents’ views of the influences on 5–6-year-old children’s food choices provides information that enriches the existing literature in this area. In many instances, parents’ views of influences on food choices reflected associations proposed in the literature (Birch et al., 1982; Contento et al., 1993; Robinson and Killen, 1995; Birch and Fisher, 1998; Coon et al., 2001). Further, these data highlight that proposed causal relationships between aspects of the home food environment and children’s food choices are likely to be complex, with a range of beliefs and other factors influencing these relationships. The capacity to capture such complexity is a strength of qualitative research.

The complexity of the relationships between home food environments and children’s eating was, perhaps, best described in discussions regarding the influence of the availability of food on a child’s food intake. Current literature would suggest that food availability is likely to be important and has set out to measure the broader food environment (Ellaway and MacIntyre, 2000) as well as the availability of food within the home (Hearn et al., 1998; Neumark-Sztainer et al., 2003). Availability of fruit, 100% fruit juice and vegetables has been found to be cross-sectionally associated with children’s intake of these foods (Cullen et al., 2003). This study suggests that although availability may determine intake, in many families, intake may in fact determine availability. These preliminary findings suggest that to understand the relationships between the availability of food and a child’s food intake, it may be necessary to move beyond descriptions of what food is available within and external to the home, to include descriptions of the attitudes and beliefs which may influence the offering of foods, particularly those foods which the child may have rejected in the past. Understanding the precursors of parent decision-making in this area is likely to be important in supporting parents to promote foods that will protect their child from development of overweight and obesity. This provides an important area for future research and has major implications for interventions seeking to improve children’s diet via the family food environment. For example, the substantial child and maternal health service infrastructures that exist in many countries could refine currently adopted messages regarding healthy eating (and, in turn, obesity prevention), such as promoting fruits and vegetables, by exploring parental values and beliefs regarding those factors that might limit the promotion of these foods and foods that will compete with them (such as sweet snacks) in their homes.

The active marketing of food to children, via television and other media, was viewed by most parents as an important influence on children’s requests for food. However, the ways in which parents managed these requests varied considerably, with some parents apparently more influenced by food requests than others. This suggests that the influence of food marketing in this group was indirect, with parents’ management being the step between advertising and purchase. That is, parents manage the request for the advertised food and determine whether foods are bought and offered or not. As with the example above, this
draws our attention to the importance of understanding parental attitudes and beliefs regarding the management of food requests. Given that food requests are likely to be for highly advertised foods, which are predominantly energy dense (Taras and Gage, 1995; Byrd-Bredbenner and Grasso, 2000), these findings suggest that strategies that support parents, for example, through public health campaigns, to either limit children’s television viewing or to behaviourally manage food requests, may be important in interventions aiming to prevent obesity.

A final important influence on children’s food choices revealed in parent interviews was the perceived efficacy of a range of child-feeding approaches that may not be recommended by dietary or child health experts, including the use of encouragement or pressure to eat and, consequently, the use of food rewards such as dessert. Consistent with the qualitative research of children under 5 years (Baughcum et al., 1998; Sherry et al., 2004), this feeding style appeared to be adopted in response to the parents’ anxiety that the child had not eaten enough. The use of pressure in feeding (and in these examples, the associated use of food rewards) has been reported in recent qualitative work by Sherry et al. (Sherry et al., 2004) and is of concern, given that research findings suggest that the use of pressure in feeding is detrimental to a child’s capacity for energy regulation and may lead to the development of overweight (Johnson and Birch, 1994; Fisher and Birch, 1999). The qualitative nature of these data enriches the understanding of why parents might endorse the use of such feeding techniques and provides insight into the context in which feeding messages may be received. In understanding that parents may be anxious about their child not eating enough food, those health professionals who have opportunities to support parents in their feeding of children, as Maternal and Child Health Nurses and General Practitioners, may more effectively target barriers to the uptake of child-feeding messages.

**CONCLUSION**

This exploratory study provides depth and detail regarding the views of a socio-economically diverse group of parents regarding influences on children’s food choices. It also provides insights into the beliefs that inform and support these views. Importantly, this study illustrates that the reported associations between the home food environment and children’s food choices are likely to be more complex than previously suggested by quantitative research, with multiple influences impacting on these associations.

Family focused efforts at obesity prevention are likely to be fundamentally important in addressing the obesity epidemic. However, our understanding of relationships between the home environment and food choices needs to be enriched. Describing parents’ views on the mediators (promoters and reinforcers) of parental decision-making around food and feeding provides an important area of future research.

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