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**THE IMPERATIVE FOR CONSULTATION AND INVOLVEMENT IN CHILD  
NUTRITION RESEARCH: ADDING PERSPECTIVES FROM QUALITATIVE  
RESEARCH.**

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**ABSTRACT**

This chapter highlights the need for an understanding of the views of children and the way they view food and nutrition knowledge and behaviour. We argue that this is necessary to help understand behaviour, to inform practice and to devise realistic research and evaluation strategies. Many existing approaches to research adopt a positivist approach and tend to exclude qualitative work because of the lack of control groups and validated measures.

We set out how, by using qualitative research techniques and examples from our own work, the views of young people can be used to inform underlying behaviour. What we know about the behaviour of a community or group of individuals is often added to by qualitative data and this is not always so in experimental studies. For example attempts to change the behaviour of young people in eating in fast food restaurants is tempered by the fact that the reasons they do this are

influenced by issues other than knowledge about the food on offer; or in the case of fruit and vegetable schemes it is necessary to understand the mindset of children to consuming fruit and vegetables. These raise the classic contradiction between knowledge and behaviour and the translation of research findings into practice and shaping what works. Determining audience needs, wants and perceptions is one of the key principles of good quality public health nutrition prevention work and is in-keeping with the need to create supportive environments for health and strengthening community action for health. We set out the need for understanding the mindset of young people, along with the links between research and action. We explore the use of existing evidence and gaps in the evidence base which includes an argument for research to have utility and be linked to programme interventions; indicating a shift from traditional evidence-based practice and a plea for evaluation and research on the use of evidence in practice. Such an approach will enable health practitioners to gain a better understanding of how to implement strategies associated with childhood nutrition and healthy eating in their working environment.

## **INTRODUCTION**

This chapter focuses on the need to understand the decisions young people make in relation to food using the school setting. This understanding is distinct from the situation with respect to 'what' they do i.e. empirical studies of behaviour. We present examples of work the authors have carried out in the area of schools and the views of young people. The current focus in children's research on quantitative methods such as randomised control trials (RCTs) and systematic reviews as the basis for action often ignore the issues of what and why children do certain things. Darbyshire (2000) argues that the predominate approach when researching children's experiences is that children are 'researched on' rather than 'researched with' or 'researched for'. Children's views are often ignored in issues relating to their own health and wellbeing. RCTs and systematic reviews are, in our opinion, not the end of the equation but the starting point for action and need to be informed by the views of the audience. Many quantitative methods do not tell us what underlies the behaviour of children and will often only set out the *what* of behaviour and not the *why* underpinning that behaviour.

Key among the reasons for the exclusion of qualitative research findings from the evidence bases such as systematic reviews are that many qualitative studies do not meet the review requirements of systematic reviews and are poorly done, often being no more than narrative descriptions of process (see Thomas et al., 2003 for an example). The standards for many systematic reviews by their very nature exclude qualitative approaches as they do not include control groups and

validated measures. There is clearly a case for qualitative research to meet the standards for good research. Although using qualitative research methods to make sense of children's issues may have some detractors, it cannot be discounted. Darbyshire and colleagues (2005) contend that while typical quantitative approaches are important, they cannot provide all of the information and awareness required to fully appreciate children's experiences. Research on children and nutrition should be balanced with an effort to develop practice-based evidence not just the current emphasis on evidence-based practice. Learning from what children say and using that to shape future nutrition pathways will assist in their health and well-being. The starting point for this chapter arose from the involvement of one of the authors in a systematic review which was commissioned to help inform the actions of a national school intervention called Food in Schools (FIS see <http://www.foodinschools.org/>) (Caraher, Cowburn, & Coveney, 2007). This consisted of a review of the evidence in eight areas namely- 1) breakfast clubs; 2) tuck shops; 3) vending machines; 4) water provision; 5) dining room environment; 6) lunch boxes; 7) cookery clubs; 8) growing clubs. The review identified best practice from the literature, but the projects had major problems in turning the findings into actions. In practice there was need for all the eight strands to engage in further –qualitative- research or needs assessment and 'try out' the findings from the research on their target audiences in order to tailor lessons from research findings to programme intervention (Caraher et al., 2007). We pick this theme up later when discussing the need to balance research evidence (from quantitative methodologies, RCTs and systematic reviews) with the development of practice-based evidence.

The chapter is set out under the headings of the need for consultation and understanding of the mindset of young people, along with the links between research and action. It is followed by a section on the use of existing evidence and gaps in the evidence base including an argument for research to have utility and be linked to programme interventions. This would indicate a shift from what we know to how to do it. In other words, a case exists for the development of practice-based evidence to be given more prominence and balanced with the current emphasis on the development of evidence-based practice. We know *that* fruit and vegetable schemes which encourage the consumption of 5-a-day or more are good but *how* you get children to eat more fruit and vegetables is less clear. Then we move onto looking at some examples from our respective research which shows the importance of utilising the major stakeholders – children, so as to understand their views, perceptions and opinions.

## **THE NEED FOR CONSULTATION**

The Ottawa Charter (World Health Organisation (WHO), 1986) identifies three basic strategies for health promotion and these offer a structure and priorities on which qualitative approaches can be based, namely ;

- 1) advocacy for health to create the essential conditions for health;
- 2) enabling all people to achieve their full health potential; and
- 3) mediating between the different interests in society in the pursuit of health.

From these come five priorities:

- Building healthy public policy;
- Creating supportive environments for health;
- Strengthening community action for health;
- Developing personal skills, and
- Re-orienting health services (WHO, 1986).

Any research needs to keep these in mind, the purpose of research is to inform action and as such should help in mediating between the professional agenda and the needs of the client group. What we know about the behaviour of a community or group of individuals is often added to by qualitative data. Indeed when it comes to understanding children's words and actions it is more sensible to use a range of methodological strategies which can capture a broader and deeper range of children's perceptions and experience rather than relying on only one technique (Darbyshire et al., 2005). For example attempts to change the behaviour of young people in eating in fast food restaurants is tempered by the fact that the reasons they do this are influenced by issues other than knowledge. Chapman and MacLean (1993) found that the young people, they interviewed, knew the 'facts' and they recognised that fast-food was unhealthy, however still chose to eat in fast food restaurants, a finding repeated by Hesketh and colleagues a decade later (2005). Some of this was due to their friends eating there as well as associated issues such as the social atmosphere (lack of parental control).

While public health nutrition programmes often use and are informed by some or all of the above five priorities we argue that childhood nutrition research should also be informed by these principles in order to have utility in the practice setting (Caraher & Reynolds, 2005). The importance of assessing the needs of the different groups who will be affected by the research has already been noted. Identifying all the different groups of people (or stakeholders) who have a view about the problem that it is hoped to address is a vital step because, to be successful, research programmes/projects need community involvement or investment (Caraher et al., 2007).

Just because food and nutrition professionals see a problem does not mean that groups or communities do. For example, there may be good quality existing data on the poor availability of fruit and vegetables in a community, gathered through survey research. But this may not tell us what people's views or perceptions are of the problem: what they know about and think about it or where it sits in their priorities. So this type of evidence is needed and the methods used to collect it should be rigorous and systemised in order for the data to be credible. Take nutrition action in a school setting as an example. Schools are communities: they comprise students, teachers, parents, funders, regulators, volunteers, and other groups. Any work with schools would need to include some or even all of these groups. It is now well known that working with communities has a number of important characteristics that can facilitate or mitigate against success. In order to maximise success there is a need to ensure an increase in those factors known to facilitate involvement and reduce those known to be barriers. These include:

- Recognition of a relationship between what children say is important and intervention effectiveness.
- Formulating health communications that are relevant and credible to children.
- The need to involve practitioners, researchers, children and their parents (Adapted and compiled from Caraher & Reynolds, 2005; Dobson, et al., 2000; McGlone, et al., 2005; McClone, et al., 1996; Thomas et al., 2003).

The above issues need to be part of, and help inform research agendas, simply documenting through research the current behaviours of children, while useful, may in itself be inadequate in helping influence that behaviour. Determining audience needs, wants and perceptions is one of the key principles of good quality health promotion nutrition prevention work in helping create supportive environments for health and strengthening community action for health (WHO, 1986). Formative evaluation can also be used to help establish knowledge levels or other baselines for the target population by which post-intervention outcomes can be measured (Caraher et al., 2007).

### **USING EXISTING EVIDENCE AND THE EVIDENCE GAP?**

Many nutrition prevention projects face the problem of a lack of existing evidence of effectiveness. In this respect it is important to remember that systematic reviews of evidence only reflect the best currently available and that it may not address certain issues as these have not been taken-up in the research are not of a sufficient quality to be included. In this case there are

two options, do nothing or intervene? Take the findings from the systematic reviews carried out by Summerbell et al, (2005) in Box 1 which investigated obesity interventions, and Shepherd et al, (2006) in Box 2 which examined the barriers to, and facilitators of, healthy eating among young people.

### **Box 1 Review of interventions for preventing obesity in children**

Conclusions from the review included:

The current evidence suggests that many diet and exercise interventions to prevent obesity in children are not effective in preventing weight gain, but can be effective in promoting a healthy diet and increased physical activity levels.

The programs in this review used different strategies to prevent obesity so direct comparisons were difficult. Also, the duration of the studies ranged from 12 weeks to three years, but most lasted less than a year.

(Taken from Summerbell et al, 2005)

### **Box 2 Review of young people and healthy eating**

Conclusions from the review included:

The current evidences indicated that the effectiveness of the community and society-level interventions among young people were mixed; with improvements in knowledge and increases in healthy eating but differences according to gender.

While some of the barriers and facilitators identified by young people had been addressed by soundly evaluated interventions, significant gaps were discovered where no evaluated interventions had been published or where there were no methodologically sound evaluations.

(Taken from Shepherd et al, 2006)

It becomes clear from the two reviews above that many studies were of a quality that did not allow them to be included in the reviews, they did not include control groups and validated measures and this applies to both qualitative and quantitative approaches. This is despite the new criteria for health promotion type work where the use of RCTs and control groups are not the only appropriate criteria for selection (see the EPPI website for examples of review criteria for health promotion interventions <http://eppi.ioe.ac.uk/EPPIWeb/home.aspx> and also part 2 of Oliver & Peersman, 2001). Whichever, behavioural studies related to childhood nutrition suffer from a lack of evidence-based, well-designed intervention projects (Oakley, 1998, 2000;

Peersman, Oakley, & Oliver, 1999). This can be partially addressed by adopting what Robinson and Sirard (2005) call a 'solution-orientated approach'. This means that past orientation or current lack of evidence of cause can be overruled in favour of future orientation. The elemental question is do you do nothing? Robinson and Sirard provide an example of soft or carbonated drinks and they ask:

*'What is the justification for skipping over the requirement to prove soft drinks cause obesity and jump directly to an experiment testing elimination of soft drink sales? In the case of childhood obesity, it is universally accepted (and has been for at least eight centuries) that energy imbalance results in changes in weight. Therefore, without knowing the true underlying cause(s) of any individual's or any population's obesity or risks for obesity, any intervention that produces a deficit in energy balance, by increasing energy expenditure and/or decreasing energy consumption, will lead to prevention or reduction in weight gain. As described, there is face validity to the hypothesis that eliminating soft drink sales in schools will result in a negative energy balance (future orientation) regardless of whether soft drink consumption was the cause of obesity (past orientation)'* (p 196)

This can be taken to indicate a need to balance future research work concerned with developing more descriptions of the problem with research which works on solutions to realign research priorities (see Agget, 2006; and Vartanian et. al, 2007 for further examples of this dilemma). This should include more well funded and constructed research and evaluations of what works in practice. RCTs and the results of systematic reviews compile the best evidence as it currently exists and highlights gaps. We contend that there are gaps in the literature with respect to children and their nutrition behaviour, often compounded by a lack of qualitative insights and also that there is a gap between the existing evidence and its utility for practice. Systematic reviews often have inclusion criteria which only include study designs which meet the following criteria:

- Randomised control trials (gold standard).
- Quasi-experimental studies with comparison group.
- Uncontrolled before and after studies (pre-test/post-test).

For example the Summerbell et al. (2005) review had as its aim '*to provide an update of evidence from studies which have employed a study design which sought to compare the effect of interventions to prevent childhood obesity between those who have received the intervention and those who have not.*' The point is not that systematic reviews, RCTS or research that relies on quantitative approaches are inappropriate, clearly they provide a direction for research and action



but that qualitative perspectives and research on the translation of research into action in the practice setting are equally valid. Indeed both reviews above are excellent in their own ways and clearly provide insights into the issues but they present a picture from one dimensional picture and could be added to by the inclusion of qualitative perspectives.

We are arguing, not for a separation of disciplines into qualitative and quantitative camp, for an integration of both and for qualitative research to add to insights from quantitative. In box 1 above Summerbell et al. (2005) identify that most interventions lasted less than a year, this could mean that interventions were not given enough time to bring about change and were possibly not well funded. What are the views of those running such interventions? We would see another recommendation from this review as a call for interventions to be run over longer periods, to be sufficiently funded and located in practice settings. This would balance the development of research evidence which can inform practice with the development of practice-based evidence. This is evidence that arises from actually trying to solve a problem from first principles, as in the example above. We are grateful to Prof Boyd Swinburn for this distinction (personal communication, April 26<sup>th</sup>, 2006).

## **WHAT INVOLVING STAKEHOLDERS ADDS TO THE DEBATE**

Here we include some examples from our work which will help inform the processes we are talking about. Two examples are given: one large study from the United Kingdom (UK) and a smaller project from Australia and are both related to cooking and young people. Both studies use children participants to illustrate how they consider food and nutrition, and two distinct methodologies are utilised. The UK example employs a technique called 'draw and write' to obtain responses from the children while the Australian study uses cooking classes within the classroom to explore the reactions of students to food through 'tasting'. The first investigates the work carried out in the UK.

### ***UK example - Cooking among young people***

There are many studies which set out the rates of cooking and the changes from one generation to the next (See Lang, et al. 1999), however few detail the ways in which young children conceive of cooking. The first comes from work concerned with the attitudes of children to cooking, carried out in schools in England and Wales. In total 82 -eight to nine year old- pupils took part in the research, with the breakdown as follows: London (L) 34, Wales (W) 19 and Herefordshire [a county in the midlands bordering Wales] (H) 29.

A technique called 'draw and write' was used to ascertain the views of young people. This research technique was carefully constructed to allow young people to express their ideas in words *and* images (i.e. not bound by words only) so that the young people were not necessarily limited in what they told us by their writing or drawing abilities (Caraher, et al., 2002; 2004). Each child was given a sheet of paper and a paper plate, on the back of each they were asked to write their name, class and whether they were a boy or girl. Two separate exercises then followed. On the paper plate, children were asked to draw a picture of – or write about – a food/meal that they would really like to make for a guest when they visited. On the sheet of paper, children were asked to draw a picture of “someone who is cooking” and then to tell us the story of what was happening in their picture.

**Figure 1: Sample drawing showing words and pictures for transcribing**



The analysis focused on identifying themes and a conceptual mapping of emerging themes from the drawings and the stories told. Data on all drawings was entered into a computer analysis program NUD.IST using three headings to describe each picture (Gahan & Hannibal, 1998; QSR NUD.IST, 1997). See Figure 1 for an example of the wording on the pictures. Each drawing was given an identification code, e.g. L for London, W for Wales and H for Herefordshire, as well as an indication of gender, either B or G. A code number was assigned to each individual so that plates, pictures, and narrative could be matched up. Then words were used to describe the drawing: eg sister, oven/hob, and saucepan.

Finally the words in the drawing were entered:

- . sister;
- . she is cooking dinner;
- . paster [pasta]; and
- . I make chaket potato [jacket potato], chip's [chips] and pizar [pizza].

Analysis involved grounded theorising using the data to develop the emerging categories as opposed to a predetermined coded response. As far as possible, assignment of responses to two categories was avoided by a judgement relating to the emphasis and the order in which the responses appeared. Initial analysis resulted in the development of 14 categories, reanalysis resulting in combinations of some of the categories and rejection of some resulted in this being reduced to eight categories. Table 1 shows the main issues arising from the research.

**Table 1: Main issues arising from research**

Ethnicity	Tea and coffee
Traditional foods and the 'proper meal'	Mum in the kitchen
Fried foods	Men in the kitchen
McBurgers, chips and pizzas	Celebrity chefs

**Figures 2 to 9: A selection of drawings to illustrate key issues**



**Figure 2**  
L/G/08  
"kous-kous"



**Figure 3**  
L/B/18  
Roast dinner



**Figure 4**  
W/G/04  
Chips, beans and sausages



**Figure 5**  
H/B/24  
‘McBurger’ and fries



**Figure 6**  
H/G/05  
Mum cooking sausages



**Figure 7**  
W/G/01  
“My sister is making a cake”



**Figure 8**  
W/B/16  
“My dad is making an omelet”



**Figure 9**  
L/G/10  
“My dad cooks every day”



**Figure 10**  
H/B/25  
“The naked chef”

### So what does this add?

Figures 2-9 show a sample of the responses and the range of eating behaviours reported by the children. In the London school the issue of ethnicity was raised as having a direct bearing on food choice and cooking. At least one of the wards from which the school draws its pupils is 80% minority (ethnic communities). Two students – both with parents from North Africa – stressed the importance of what they described as ‘our foods’. Figure 2 shows the experience of Martha who was anxious that we should be aware of the importance of “kaus-kaus” and how to prepare it. She expressed immense pride in her food and was anxious to let us know that she was proud of her heritage and the role that food played in it. She described the situation in her picture as follows: “This is my stepdad cooking sausage casserole it is for dinner. Kaus-kaus defrost peas, pour hot water in a bowl pour defrosted peas in the bowl with the Kaua-kaus, mix it wait 5 minutes then it is made.”

In the two other schools there was little mention of ethnic foods or evidence of the influence of ethnic cuisine on everyday eating or food, unless we accept pizza as an ethnic food. There was,

for example, only one mention of curry. This despite the contention that we have in the UK a multi-ethnic cuisine with 'chicken tikka-masala' being the embodiment of this supposed fusion.

Following on from this lack of evidence for a fusion of British cuisine, the children in the three schools expressed a preference for food that may be described as 'traditional British' or the 'proper meal'. Many children's drawings incorporated what can be described as traditional British food – such as bacon and sausages – or other elements that could be interpreted as traditional British cuisine (for example, fish, chips and peas). The second part of this category represented in the children's drawings was the 'proper meal', which usually is represented as having a main part (such as meat) supported by two subsidiary elements (such as 'two veg'). The 'proper meal' was prominent in the drawing and stories of the children across all three.

A popular representation of the 'proper meal' was the roast dinner on a special occasion such as "Sunday" (See Figure 3). One girl from the London school described her picture as follows: "*my dad cooks everyday today he is cooking Sunday dinner, Rost chicken, rost potato, runner beans, summer(?) pudding*". There were also attempts to combine foods such as pizza or spaghetti with other foods so that a 'proper meal' could be formed. This came across strongly in some drawings when one or two slices of pizza were used to form the core part of a main meal and were then supported with other foods such as vegetables or chips.

There was a strong tendency for the children in the Herefordshire and Welsh schools to draw pictures and tell stories of preparing a meal with fried food as the centre piece. This was very often a rather mixed plate of food with fried food serving as a central element of the 'meal'. Figure 4 shows a typical representation with a description around the side of preparing chips "*in the pan*". This category also included other foods, but fried foods were at the centre of the plate or the story even where there was other food on the plate.

There was a definite tendency for pizza and burgers to be favoured as something the children themselves liked or something they would like to serve to a visitor (See Figure 5). This was more evident in both the Herefordshire and Welsh schools than the London school. This may be a result of the influence of eating out in restaurants such as McDonalds, and/or the growth of eating pizza in the home. There were references to foods such as "McFlurry" or "chicken McNuggets" being prepared in the home – where a branded product has assumed a generic title to describe a drink or nuggets of chicken. This was supported by the stories that the children told us of going to

‘McDonalds’ to eat and that this is somewhere they would like to take a visitor to eat. In all three areas, visits to McDonalds were seen as part of everyday food culture.

Tea and coffee were identified by many of the children as something they prepared at home with a minimum of supervision from parents. They typically told us the story that they prepared and brought this to their parents in bed at the weekend, showing the social nature of food. The stories the children told us included those about the kitchen where the person who was seen to frequent the kitchen was ‘mum’ and the majority of the pictures reflected this (see figure 6). Many children showed ‘mum’ in the kitchen. This was followed by a category that usually involved an elder sister either preparing food or helping our ‘story tellers’ or drawers to prepare food. So the issue of preparing food still appeared to be gender-related. There was a minority of pictures that showed dads or step-dads in the kitchen (see figures 8 and 9). This was true in all three centres, but was especially noticeable in the drawings and stories from the London school. Table 2 shows a more detailed analysis of food preparation for the London schools.

**Table 2: Breakdown of the 34 London pictures showing who is preparing the food**

Children themselves preparing food in the home	11
Mums preparing food	6
Older sister preparing food	2
Dads preparing food	9
Others	7

In the London school there was also a noticeable number of references to step-dads and second families – as in the mention of step-sisters, etc. The number of girls who depicted their older sisters helping them in the kitchen was also a noticeable feature of many of the drawings (see figure 7).

Celebrity chefs received a number of mentions in the drawings. There were many mentions of the naked chef – “chiff” with “jamey oliver” or the “naked chief” (see Figure 9). Delia Smith received a couple of mentions. The mention of celebrity chefs was much greater in the schools in Wales and Herefordshire, as was the portrayal of chefs and male chefs. When describing a story of taking a visitor for something to eat many of the children described the meal being prepared by a chef. It is interesting to note – but perhaps not surprising – that the chefs and celebrity chefs depicted in the children’s drawings were predominantly male, whereas children depicted mainly

female characters in their drawings of cooking at home (see ‘Mums and dads in the kitchen’ above).

***Australian example – Nutrition workshops with children***

A series of weekly nutrition workshops with five- and six-year-old children in three reception (pre grade one) classes at one school were run over a period of eight weeks in South Australia. The school was located in a beach side suburb approximately 20 kilometres south of Adelaide and approximately 60 students partook in the nutrition workshops. The main aim of the workshops was to introduce the Australian Guide to Healthy Eating (Smith, et al. 1998) to the students and familiarise the students with the preparation and cooking of foods from the healthy eating guide. While in the company of their peers, the students were asked to help prepare and try foods that they had previously verbalised distaste. Focus group interviews were held with students from each class, as well as individual interviews with teachers and parents prior to the commencement of the workshops as well as at the completion of the eight weeks. Table 3 depicts the weekly topics introduced to the school students and the corresponding cooking class.

**Table 3: Weekly nutrition and cooking workshops**

<b>Week</b>	<b>Topic</b>
Week one: Food glorious food	Introduction to the healthy food pizza, the ‘the Australian Guide to Healthy Eating’ poster and relate to a pizza shape. <ul style="list-style-type: none"> <li>• Students will make a ‘healthy pizza’</li> <li>• Children will be taught what the five food groups are</li> </ul>
Week two: Touch, taste and smell fruit and vegetables	To promote fruit and vegetable consumption the students will help make a fruit and vegetable man and encouragement will be given to touch, taste and smell the fruits and vegetables as he comes together. <ul style="list-style-type: none"> <li>• Discussion with students on how the fruit and vegetables help us to be healthy, give energy to run and play.</li> <li>• Make coco-banana’s to try.</li> </ul>
Week three: Orange and lemon squeezing	To help students distinguish between different tastes (sweet and sour) and to introduce to taste buds. <ul style="list-style-type: none"> <li>• Students will try different tastes and to label on a tongue worksheet where they thought they tasted it.</li> </ul>
Week four: Carbohydrates	What are carbohydrates and why are they so important to our bodies. The student will investigate the different foods that contain

	carbohydrates. <ul style="list-style-type: none"> <li>• Students will make fresh pasta.</li> </ul>
Week five: Protein	What is protein and where is it found? Why are they so important to our bodies? The students will investigate the different foods that contain protein. <ul style="list-style-type: none"> <li>• Students will taste test foods containing protein and make scrambled eggs.</li> </ul>
Week six: Make your snack	Introduce students to making and choosing a 'healthy' snack.
Week seven: Fluids	Why are fluids (especially water) so important to us? <ul style="list-style-type: none"> <li>• Students will use different products with fruit to make different fruit drinks</li> </ul>
Week eight: Recap!	A look back at the workshops and reintroduce the Australian Guide to Healthy Eating as well as put together a recipe book of the foods we made and tasted

In order to build knowledge, as well as developing and explaining the reasons behind children's reluctance at trying different food, this study used a qualitative interpretative approach. It is the nature of interpretive inquiry to seek to understand a phenomena and to interpret meaning within the social and cultural context of the natural setting (Smith, 1989). The qualitative data was collected from semi-structured interviews and then analysed using thematic analysis (Patton, 2002). The intent of the thematic approach was to identify and analyse patterns and regularities and progressively build up an interpretation of the field under study. The children participants undertook focus group interviews, while the parents and teachers were interviewed individually. Twenty students, three teachers, and 10 parents took part in the interviews. Detailed information forms were sent to each participant and consent forms were signed prior to data collection. Table five indicates the major themes that arose from the interviews.

**Table 4: Themes identified from participants**

<b>Prior to workshops</b>		
<b>Children's Themes</b>	<b>Parents Themes</b>	<b>Teachers Themes</b>
Perceptions of health	Difficulties in introducing different food	Nutrition education



	Time constraints	Time constraints
<b>Post workshops</b>		
This is yummy!	How can we make this at home	Fruit time
Food at home	Breakfast concerns	Vegetable gardens
Positive peer pressure		

**So what does this add?**

The verbal feedback from the parents of the children participating in the workshops identified that foods previously not tried or refused at home were now being asked for at meal times. Parents claimed that their children were willing to help prepare the food in conjunction with encouraging other siblings to join in. Five major themes were presented prior to the workshops, while seven were identified post workshops. Many themes between the parents and students were concurrent, especially if the student showed interest in foods that were previously not eaten at home. The foods introduced in weeks one, two, four and five provided the most comments as they were typically untried or less likely to be cooked at home due to children’s resistance in eating them. This was especially relevant in the week one’s ‘healthy eating pizza’ and week two’s ‘fruit and vegetable man’.

The term ‘health’ was discussed with the participants prior to the workshops to determine an understanding of what ‘health’ meant to them. All of the participants had differing perceptions of the term although it was the students who gave the broadest range of interpretation. The majority of student participants, cited “fruit and vegetables” when asked to define the term “healthy”. When prompted, the students also included “exercise and sport” within their definition. Other definitions of health included; “keeping fit”, “milk and water”, “watching swimming and footy”, “riding a bike outside”, “eating a variety of healthy foods”, and “carrots for your eyes”. Students also clarified their perception of health with examples. On group of students provided impressive discourse on this issue:

**Q:** What is your idea of healthy? Please go round the group.

**A:** Ok, um, eat lots of vegetables and eat healthy, exercise and just be healthy.

**A2:** Look after your body, drink lots of water, and vegetables, and bread and all that.

**A3:** I reckon healthy is like you need to drink lots of water, take your dogs for walk, so your dogs get exercise and they're healthy as well, and stuff like that.

**A4:** Well, healthy would be to me, would be to exercise and to have plenty of vegetables and fruit and eat, have your serves of meat so you get the protein.

**A3:** I don't think you should eat too much of the stuff that you should eat, because otherwise you get fat.

**A5:** Well, my idea of healthy would be to drink lots of water, around about 2 litres a day.

**A6:** I think you should eat lots of fruit and vegetables and keep yourself hygienic.

This dialogue was representative of other students in the research, however, some students had a better understanding of health than others. Conversely, when asked what "healthy choices" the students would like to eat at home, "fruit and vegetables" were not the main foods mentioned. Products such as "chocolate", "fried chicken because chicken is good for you" and "chips have potatoes in them" were three food items that were referred to on a number of occasions by different students. Additionally, although apples were mentioned, very few other fruit or vegetables were mentioned by students for consumption at home. These statements support the recognised fact that Australian children do not consume enough fruit and vegetables. The complexities in fruit and vegetable consumption in schools is supported by a study carried out by the Australian Horticultural Corporation (AHC, 1996). Research carried out over a 24 hour period indicated that approximately 40% of primary School-aged children ate no fruit and 27% of School-aged children ate no fruit or vegetables (AHC, 1996). According to McVeagh (2000), that statistic is much lower than the recommended fruit and vegetable intake of five or more servings a day. The recommended intake for adults is seven servings a day and if children develop good eating habits early they are more likely to carry the daily intake into adulthood. Noteworthy, two of the post workshops themes raised by children; "this is yummy" and "food at home" were in direct contrast to many comments raised about 'health' previously. Students changed their view on what they would like to eat at home. Parent's comments were congruent with the students with many asking for recipes so that they could "make the foods at home just like at school". Parents also commented on the difficulty to introduce certain foods (interestingly, the food cited as the most difficult was eggs) in the past, however since trying it at school with "the other children", their children were asking for it. Positive peer pressure was also alluded to by the students with many remarking, "the rest of the class was eating it and I didn't want to be left out".

The teachers in this study claimed that they would like to introduce more cooking and tasting workshops in their classes if they had time. Rationalisation surrounding the “success” of the introduction of foods previously untried or “disliked” by the students fuelled the teachers claims. It has been recognised that providing nutrition education in the school environment provides a positive influence on the knowledge, attitudes, skills and behaviours of young people. Particularly, in the improvement of student understanding about the scientific and philosophical principles of healthy eating and the development of skills needed by students to make decisions about healthy eating behaviours (O'Connor-Fleming & Parker, 2001). Investigations into the benefits of school based nutrition programs and subsequent health school programs showed that the academic performance and mental ability of students with good nutritional status were significantly higher than those of pupils with poor nutritional status (Jones, Kickbusch, & O'Byrne, 1995). Arguably, students who understand the benefits of a ‘healthy diet’ are more likely to buy a ‘healthy’ alternative at the school canteen if provided. However, evidence suggests that although many schools do take a ‘health promoting’ approach, in various cases, the school canteen does not stock the healthiest food choice. Hence, even though the school canteen is a part of the school community, a whole school approach to health is not taken (Drummond, 2007). Due to the success of the workshops, all of the teachers introduced a “fruity Friday” initiative whereby the students bought fruit to school; it was cut up by the teachers; and then shared amongst the class. Accompanying initiatives adopted by the classes due to these workshops were; on-going “on-off” cooking workshops utilising a similar program to the one already introduced; “importance of breakfast” lectures and “breakfast ideas” given to both students and parents in the class; planning of a vegetable garden in an unused plot of land within the school – this initiative was proposed by the teachers from the classes to the rest of the school community and was slowly being established; and posters to support healthy menu change in the school canteen.

## **DISCUSSION: IMPLICATIONS FOR CHILDREN’S HEALTH**

Our research on cooking and young people belie the claims from other research that children are not engaged with, interested in, and exposed to cooking in both the home and at school. This is important and could help inform the process of any implementation of cooking programmes in schools. The research from the UK highlights the tension emerging between the claims for a British food culture that has multi-cultural influences and one that is leaving past traditions behind in favour of a pizza and

burger culture. The burger and the chips are there in the stories told by the children and indeed they indicate a strong preference for these foods. The children in the schools outside London (Wales and Herefordshire) showed a greater propensity for chips as the mainstay of many meals, while this partiality was less evident in the London school. But, despite this, there was also an attempt to include them within traditional mores and values related to food. So, as one child said when drawing their meal on a plate, it is “*hard to get things to go with pizza*”. This often resulted in a smorgasbord of food where fried food was present, perhaps indicating that the young people were seeking to find ways of combining them to form a ‘proper meal’. The ways in which children conceive of the meal plate and the tensions they face in balancing the gap between their attitudes and practices can help form the basis of healthy eating initiative. The frequent mentions of and declared preference for, if not consumption of, chips indicates that any programme will have to tackle this if the behaviour is not simply to become one of displacement i.e. banning chips in schools but merely shift consumption to the home or on the way home.

Both studies show that there are tensions in what the children do and actually consume and the mores of food behaviour that are extended to a visitor and what they say they would like and what they actually do. The concept of a proper meal as expounded by Douglas (1972; 1982) is still powerful among the children in the UK study and they seek to impose a grammar and structure to the meal situation. There are many examples of positive engagement with food and the home is still an area for interaction around food, whether mums/dads/sisters in the kitchen helping younger people or children preparing food and drink for parents. This is in contrast to the situation claimed by many of the lack of engagement with food by young people. Clearly fast food and processed foods have made great inroads into the everyday lives of the children with commercial or brand names being used to describe food, eg McNuggets. We know from other research that children eat virtually all of what they like ‘a lot’, about half of what they like ‘a little’, and almost none of what they like ‘not at all’ (Baxter, et al., 1999). It is therefore clear that food preferences need to be considered and nutritional professionals need to be aware of such preferences as well as actual behaviour when implementing dietary interventions with children. Aspects of both studies show areas where these tensions can be addressed.

Within Australia, there is concern over the disappearance of cooking skills among young people. (Caraher & Reynolds, 2005). The lack of ‘modelling’ by parents preparing fresh food and the reliance on ready-prepared foods could be reasons for this demise in cooking skills. Food skills commonly taught in schools in the past are being phased out to make way for other disciplines and it appears that cooking skills are viewed by some as no longer necessary in a hi-tech world

(Caraher et al., 2004). However, the Australian based study indicated that not only did children want to cook, they changed their eating habits to incorporate new foods, although this only lasted if the parents supported the new food intake at home. Overall, the workshop findings showed a marked improvement with consumption of healthier food choices by the participants over the course of the eight-week workshops. This study also shows the way in which practice-based evidence can be developed.

It is also useful to note that within the UK study, the prominent person in the household for the transmission of cooking skills was still 'mum' and older sisters (other studies pointed to the influence of mothers and grandmothers Lang et al, 1999), although there was evidence from the current stories that men are becoming more involved in the kitchen. This can help form the basis of a programme of research/activity in finding ways in which this can help support the school curriculum. There were some differences between the London school and the other two schools. Some of this could be partially accounted for by the greater number of students from minority ethnic backgrounds in the area from which the London school draws its students. In addition, the pupils in the London school were more likely to mention fathers as being involved in preparing food than the students in either the Wales or Herefordshire schools. Perhaps related to this was the number of mentions of 'step-dads' and second families, such as step-sisters or step-brothers, from the children in the London school.

Schools in Australia and the UK have a unique and important role in enabling children to develop their capacity for healthy growth and development and healthier futures. The school setting is a crucial part of the social environment that shapes eating behaviour, especially given that children's food preferences are learned through repeated exposure to foods. Eating behaviour learnt in school may play a significant role in ensuring that 'health-enhancing' eating behaviour is practiced in adulthood. Food literacy comprises knowledge, skills and capacities to grow, select, store, prepare, cook and serve food. Skill development in the growing, selection, storage, preparation, cooking and serving of healthy food enables children to make improved food and nutrition choices. Young people who learn these practical skills and have nutrition choices have a greater likelihood of becoming healthy adults and reducing their risk of developing diseases linked to poor nutrition. Again, what both studies point to is the importance of significant others in the food decisions of young people, this can be teachers, parents, older siblings and peers. The significance is not to be found in the knowledge that these impart but in the example and influence that their behaviour provides.

Among both studies there was a lot of commonality, however the differences between the studies indicate the need for a consultation exercise to form the basis of any intervention related to food or food-skills in a school.

## **CONCLUSION**

What becomes clear is that qualitative approaches (as set out in the two examples above of cooking in the school setting) can introduce another dimension of understanding, which adds to but also moves on from surveys which simply claim a decline in cooking among young people (although even here it is often not clear from what baseline they are comparing these declines). Quantitative studies hide within them cultural and social variations. Such variations are often to be found between areas/schools but also within schools in terms of gender and ages differences (preteens, tweens and teenagers). Using interviews, such as the focus group interviews utilised in our research, introduces the views and understanding of the groups under study which typically would not have been explored with predominately quantitative methods. The extent to which the findings from qualitative research can be extrapolated to other populations are of course open to question and interpretation but they can at the very least point to underlying theories and conceptual processes which can help us contextualise the findings from quantitative research.

Another aspect that becomes clear is that qualitative research findings can help guard against a deficit model which just assumes a want or a gap to be filled by knowledge. Knowledge is certainly one influence on behaviour, but the examples provided above show how attitudes towards health and its conception, the role of food in family relationships, teacher and parental are also important. Qualitative research can introduce elements on which to build an intervention, some times it does this by highlighting the tensions (cognitive dissonance) that exists between what children wish to do and what they actually do. It is often assumed that we need to change behaviour from unhealthy to healthy options, often forgetting that many behaviours need to be reinforced and/or built on. The quantitative data may suggest a deficit (as in the example of cooking) but be unclear as to how or what possible solutions are, except in providing more knowledge and skills. We saw above that children still have a wish to engage with food and that important conduits for this are parents and teachers. It therefore becomes important to build on this and to structure activities around these findings.

The other aspects that often emerge from qualitative studies are the tensions between what children actually do and what they aspire to. The focus is on the need to understand the decisions of young people in relation to food in the school setting. This is distinct from the situation with respect to 'what' they do, i.e. empirical studies of behaviour. Such tensions can be creative in helping to identify aspects for programme implementation and developing research on what works. They can also be useful in getting researchers to confront their own biases and opinions. For some such tensions can be negative introducing uncertainty into areas of behaviour and suggesting multiple explanations where previously single factor explanations existed. We assert that these simply reflect the real world of multiple and inter-related influences. They can also help point to the influence of complementary family relationships and issues that influence food choice not directly related to food. A refusal to eat or try new food may be related more to an antipathy towards the influence of some peers or family than neophobia. In this sense it is tied up with identity.

We contend that there are gaps in the literature with respect to children and their nutrition behaviour, often compounded by a lack of insights and also that there is a gap between the existing evidence and its utility for practice. Qualitative research in listening to the voices of children has a role to play in helping address this imbalance. Our final plea is for a methodological glasnost with both qualitative and quantitative methodologies and approaches reaching an appeasement and recognition of their respective strengths.

## REFERENCES

- Agget, P. (2006). Evidence based nutrition and health claims on foods: a renaissance? *Maternal and Child Nutrition*, 2, 65-66.
- Australian Horticultural Corporation (AHC). (1996). *AHC Children's food and beverage survey. A summary from a national survey of 300 children aged 8-13 years, covering all foods and drinks consumed over the prior 24 hours*. Sydney: AHC.
- Baxter, S., Thompson W, Davis H, & Litaker M. (1999). Children's dietary recalls: the salience of entree and liking for foods on accuracy and order of reporting - a study of autobiographical memory over six years. *Nutrition*, 15(11-12), 848-853.
- Caraher, M., Baker, H., & Burns, M. (2002). Get cooking! Consulting with young people on cooking and food preparation:. In Barnardo's and Glaxo SmithKline (Ed.), *Listen to Me: Consulting Young People on Health and Health Issues*. (pp. 101-107). Ilford: Barnardo's.
- Caraher, M., Baker, H., & Burns, M. (2004). Children's views of cooking and food preparation. *British Food Journal*, 106(4), 255-273.
- Caraher, M., Cowburn, G., & Coveney, J. (2007). Project Management. In Lawrence M & W. T (Eds.), *Public Health Nutrition: From principles to practice* (pp. 389-421). Crows Nest, NSW: Allen and Unwin.
- Caraher, M., & Reynolds, J. (2005). Lessons for home economics pedagogy and practice. *Journal of the Home Economics Institute of Australia*, 12(2), 2-15.
- Chapman, G., & MacLean, H. (1993). 'Junk food' and 'healthy food': meanings of food in adolescent women's culture. *Journal of Nutrition Education*,(25), 108-113.
- Darbyshire, P. (2000). Guest Editorial: From Research on Children to Research with Children. *Neonatal, Paediatric and Child Health Nursing*, 3(1), 2-3.



Darbyshire, P., MacDougall, C., & Schiller, W. (2005). Multiple methods in qualitative research with children: more insight or just more? *Qualitative Research*, 5(4), 417-436.

Dobson, B., Kellard, K., & Talbot, D. (2000). *A Recipe for Success? An Evaluation of a Community Food Project*. Loughborough: Centre for Research in Social Policy, Loughborough University.

Douglas, M. (1972). Deciphering a meal. *Daedalus*, 101(1), 61-81.

Douglas, M. (1982). Food as a system of communication. In M. Douglas (Ed.), *In the active voice*. London: Routledge and Kegan Paul.

Drummond, C. (2007). *The role and function of the school food service and its position within the school system*. Paper presented at the 2007 HEIA Biennial Conference - Horizons in Home Economics, Sydney, New South Wales.

Gahan, C., & Hannibal, M. (1998). *Doing Qualitative Research Using QSR NUD\*IST*. London: Sage.

Jones, J., Kickbusch, I., & O'Byrne, D. (1995). Improving health through schools. *World Health*, Mar-Apr, 48(2), 10-12.

Lang, T., Caraher, M., Dixon, P., & Carr-Hill, R. (1999). *The Contribution of Cooking to Health Inequalities*. London: Health Education Authority.

McGlone, P., Dallison, J., & Caraher, M. (2005). *Evaluation resources for community food projects*. London: Health Development Agency.

McGlone, P., Dobson, B., Dowler, E., & Nelson M. (1996). *Food projects and how they work*. York: York Publishing Services Ltd for the Joseph Rowntree Foundation, York.

Oakley, A. (1998). Experimentation in Social Science: The Case of Health Promotion. *Social Sciences in Health*, 4(2), 73-89.

- Oakley, A. (2000). *Experiments in Knowing: Gender and Method in the Social Sciences*. Cambridge: Polity Press.
- O'Connor-Fleming, M. L., & Parker, E. (2001). *Health promotion: Principles and practice in the Australian context* (2nd ed.). Sydney: Allen & Unwin.
- Oliver, S., & Peersman, G. (2001). *Using Research for Effective Health Promotion*. Buckingham.: Open University Press.
- Patton, M. Q. (2002). *Qualitative research & evaluation methods* (3rd ed.). California: Sage.
- Peersman, G. V., Oakley, A. R., & Oliver, S. (1999). Evidence based health promotion? Some methodological challenges,. *International Journal of Health Promotion and Education*, 37(2), 59-66.
- QSR NUD.IST. (1997). *Application Software Package*. Melbourne, Australia: Qualitative Solutions and Research.
- Robinson, T. N., & Sirard, J. R. (2005). Preventing Childhood Obesity: A Solution-Oriented Research Paradigm. *American Journal of Preventative Medicine*, 28(2S2), 194-201.
- Shepherd, J., Harden, A., Rees, R., Brunton, G., Garcia, J., Oliver, S., et al. (2006). Young people and healthy eating: a systematic review of research on barriers and facilitators. *Health Education Research*, 21(2), 239-257.
- Smith, A., Kellett, E., & Schmerlaib, Y. (1998). *The Australian Guide to Healthy Eating- Background information for nutrition educators*. Canberra: Commonwealth of Australia.
- Smith, J. K. (1989). *The nature of social and educational inquiry: Empiricism versus interpretation*. Norwood, NJ: Ablex Publishing Corporation.
- Summerbell, C. D., Watersm E, Edmunds, L. D., Kelly, S., Brown, T., & Campbell, K. J. (2005). Interventions for preventing obesity in children. *Systems Review*(3).

Thomas, J., Sutcliffe, K., Harden, A., Oakley, A., Oliver, S., Rees, R., et al. (2003). *Children and Healthy Eating: A systematic review of barriers and facilitators*. London: EPPI-Centre, Social Science Research Unit, Institute of Education, University of London.

Vartanian, L. R., Schwartz, M. B., & Brownell, K. D. (2007). Effects of soft drink consumption on nutrition and health: a systematic review and meta analysis. *American Journal Public Health*, 97(4), 667-675.

World Health Organisation (WHO). (1986). *Ottawa Charter for Health Promotion*. Geneva.