Burger boy and sporty girl:

children and young people's attitudes towards food in school

Anna Ludvigsen
and Neera Sharma

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To protect the identity of children and young people who took part in this research we have omitted any identifying material about the schools they attend.

Preface

The research on which this report is based makes an important contribution to our understanding of the increase in childhood obesity and associated problems. Clearly, for the children we interviewed, the media and peer-group status of high fat/high carbohydrate foods and known brands is a key influence on their eating habits. Most children regarded their teachers as having no influence over what they ate, and many believed that their parents allowed them to eat almost entirely according to their own preferences.

While these issues affect all children, their impact was clearly greater on the most economically disadvantaged children. The combination of food-related gender stereotypes: 'real boys don't eat vegetables', and of class stereotypes: 'only rich girls eat salad', inevitably operate to limit the diets of some children more than others. Understanding the worlds of children, and the meanings food has for them, is essential if we want to influence their choices in healthier directions.

However, it is equally clear from the work undertaken by the Food Commission for this report that as a society we have to reclaim responsibility for what our children eat. The nutritional analysis of school meals and packed lunches is damning. Despite initiatives to introduce healthier options or free fruit in the schools sampled, the nutritional value of the majority of children's lunches was entirely inadequate.

This report shows that current school nutritional standards and practices do not provide children and young people with the diets they need in order to be adequately nourished, ready to learn, and able grow into healthy adults. This neglect of our children's health is unacceptable. The government must take immediate action to put in place the radical public health measures recommended here to improve our children's diets.

Executive summary

INTRODUCTION

Research into the diets of schoolchildren in the UK shows that their current and future health is at risk. There is strong evidence that poor diets are contributing to the alarming increase in childhood obesity, which is linked to chronic disease in adulthood, as well as to poor physical and mental health (Searle, 2002).

About a third of all school-aged children eat – during term time – a meal prepared at school (Mintel, 2000). It therefore follows that getting nutrition right in schools will have a positive impact on a large proportion of children. The government has recently announced that school meals will undergo a major review as part of the *Healthy living blueprint for schools* (Department for Education and Skills, 2004). In addition the Food Standards Agency is recommending to government that a range of healthy options should be offered at school mealtimes. The National Services Framework, published in September 2004, introduces a new Child Health Programme designed to promote the health and well-being of children from pre-birth to adulthood. This includes national standards on the promotion of healthy lifestyles in key areas such as healthy eating and active lives. Schools and colleges are seen as having a key role in shaping the habits and behaviour of children and young people. It is anticipated that the White Paper on Health expected in autumn 2004 will make recommendations on how school lunches can be improved.

As the UK's leading children's charity, Barnardo's wishes to bring the voices of children and young people themselves into the debate. Listening to children and finding out what influences them in their food choices during the school day must be integral to any policy interventions aimed at improving schoolchildren's diets.

THE RESEARCH – CHILDREN'S VOICES

Barnardo's interviewed 174 children and young people in 9 schools in England, Wales and Scotland in 3 key stages: 4-year-olds at nursery schools, 10-year-olds at primary schools and 15-year-olds in secondary schools. The group interviews focused on children's views and opinions about social and environmental factors that influence their food preferences in school settings.

The research also looked at the nutritional value of school meals and packed lunches in three schools: a nursery school, a primary school and a secondary school. A qualified nutritionist from the Food Commission carried out this work.

KEY FINDINGS

Key findings from interviews with children and young people

Children and young people have very strongly developed ideas about health and obesity which are based on gender and income-related stereotypes often portrayed in the media.

These stereotypes have a strong influence on children's food choices as they do not want to differ from their peers.

Taste and money play a significant part in what children and young people choose to eat and ***fast food*** is viewed as the most tasty and desirable food.

In the context of school, peer pressure strongly influences children's food choices. Teachers on the other hand are believed to have no influence on food preferences.

There is an expectation among both children and adults that children are ***supposed*** to prefer unhealthy food.

There is a strong link between children's perceptions of the food people eat and their affluence, and especially between the brands children eat and what their family can afford.

The contents of lunch boxes are dictated by rigid rules enforced through subtle peer pressure, resulting in lunch boxes that are high in fat, salt and sugar.

The more **choice** children and young people have, the less likely they are to eat a healthy, nutritionally-balanced meal. For primary schoolchildren, the limited and repetitive nature of school meals meant that they preferred packed lunches, because they give choice and control. Secondary school lunches offer more choice, but most choices were less healthy with pupils reporting that popular food runs out quickly in the school canteen.

Very few children are subject to family rules in the home concerning food, with most children believing they are allowed to eat more or less what they like by their parents. This does not vary significantly between primary and secondary schoolchildren.

Food advertising is influential in persuading children and young people to want and to try the advertised product.

The obesity-causing environment has infiltrated schools, especially secondary schools, through vending machines and the promotion of energy-dense foods.

Key findings from the nutritional analysis of school meals and packed lunches

Nursery school in a deprived area of London

Staff emphasised the social aspect of eating together and children were encouraged to try a variety of foods, including food that reflected the children's cultural diversity.

The nursery school meals analysed failed to meet Caroline Walker Trust[1] guidelines for school meals in terms of energy, fat, saturated fat, added sugar, vitamin A, and vitamin C. However, the meals met the Caroline Walker Trust guidelines for carbohydrate, protein, fibre, iron, calcium and folate. The average value for sodium content was also too high according to Food Standards Agency's guidelines.

An inner city primary school

Children could make healthy choices from the school canteen. However, as older children could help themselves to side dishes, none of the meals analysed contained significant portions of vegetables, salad or fruit.

The estimated average nutritional value for school meals failed to meet Caroline Walker Trust guidelines for energy, fat, saturated fat, carbohydrate, fibre, iron, calcium, vitamin A and folate. The meals analysed on average met the Caroline Walker Trust guidelines for added sugar, protein and vitamin C.

The lunchboxes analysed were too high in saturated fat and too low in fibre. The estimated values for key micronutrients in the lunch boxes were too low and the sodium content exceeded government guidelines. The average estimated nutrition value of the lunchboxes met the Caroline Walker Trust guidelines for energy, carbohydrates, added sugar and protein.

1 Nutrition guidelines for school meals have been published by an expert committee of the Caroline Walker Trust, and have been adopted subsequently by government departments in England (in 1996) and are being proposed in Scotland. The recommendations state that a single meal should provide not more than a third of a child's recommended daily intake of calories, fat, saturated fat or added sugar. The meal should provide at least 30 per cent of a child's recommended daily intake of protein, fibre and vitamin A, at least 35 per cent of calcium and vitamin C, and at least 40 per cent of iron and folate.

A suburban secondary school

A few healthier meals were available in the school canteen, but the vast majority of available foods were energy dense and nutrient poor. All school meals analysed consisted of a cheeseburger, and/or chips and/or a fizzy drink, while none contained fruit or vegetables. The energy content of these meals and the lunchboxes analysed was too low compared to the Caroline Walker Trust guidelines. The average nutritional value of school meals and lunchboxes met only one guideline for micronutrient content: vitamin C. Estimated levels of vitamin A, folate, iron and calcium did not meet the recommended minimum levels set by Caroline Walker Trust.

The young people were presented with 28 opportunities to buy different brands and flavours of chocolate and confectionery compared with only 5 opportunities to purchase fruit or fruit salad. Chocolate was promoted at the checkout, a point-of-sale promotion used by some retailers to drive confectionery impulse sales. Furthermore, there were 27 opportunities to purchase different brands of sugary soft drinks, compared with 4 for water and 5 for fruit juice. Most food promotions in the school were for less healthy foods and of the six vending machines only one provided products free of artificial additives and one provided bottled water. All the vending machines and rubbish bins in the school carried the branding of energy dense foods.

KEY POLICY RECOMMENDATIONS

These research findings show that while schools may meet the government's nutritional standards and practices, the meals do not meet Caroline Walker Trust nutrition guidelines. Also where schools have increased the availability of less healthy foods, children and young people choose meals which fail to meet nutritional standards for school meals. The government has recently published its *Healthy living blueprint for schools* (Department for Education and Skills, 2004). As part of this initiative school meals will be reviewed in an attempt to tackle obesity in children, and ministers will review the nutritional standards for school meals. We welcome the review and strongly urge the government to ensure that it puts in place radical public health measures, with adequate financial resources, to improve the diets of schoolchildren.

Barnardo's makes the following recommendations.

> The government should ensure that the Food Standards Agency's recommendations on the balance of less healthy food are properly implemented. These include setting criteria for levels of salt, sugar and fat in foods promoted to children and introducing point-of-sale information and clear labelling for salt, sugar and fat.

The current National Nutritional Standards go some way towards promoting healthy food choices but need to be improved by government to meet the Caroline Walker Trust guidelines. Choice must be restricted to a range of healthier options based on menus balanced over one week, and the provision of fizzy drinks as part of a school meal should be phased out as is the case in Scotland.

The improved nutritional standards must be compulsory and monitored on a regular basis. They should adopt a 'whole school' approach and cover all food provided on school premises, including vending machines.

The provision of all food on school premises should be inspected by OFSTED and linked to the overall performance of schools.

School governors, head teachers and teaching staff must take responsibility for the diets of children and young people in their care. They should be required to draw up nutritional plans for the school with the active participation of pupils, parents and catering staff.

All school catering staff must receive nutritional training. The government must ring-fence monies for this from the additional funding mentioned in its *Healthy living blueprint for schools*.

The government should set up a committee to review school catering arrangements with the aim of implementing a policy which enables all children, including those on free school meals, to purchase a healthy two-course meal.

School nutritional plans and the curriculum need to engage children and young people in discussions on the environmental and social factors that influence them, such as peer pressure, advertising and branding.

The government should ban branding on school vending machines in England, as is the case in Scotland and Wales.

Vending machines containing sugary soft drinks must be phased out. In the long term, school vending machines should only offer healthy food and drink choices.

The DfES must review school funding, so that schools are not in a position of accepting sponsorship from manufacturers of unhealthy foods to fund core educational activities such as teaching posts.

Funding for school meal provision needs to be ring-fenced so that a minimum amount is spent per child per meal.

Introduction and background for research

If current eating habits persist, more than half of all school-aged children will be obese by 2020. Statistics show that unless current trends are reversed, the health of all our children and young people is at serious risk.

The consequences are alarming. Obesity is associated with poor health and reduced life expectancy through increased risk of heart disease, type two diabetes and some forms of cancer. In 2002, cases of maturity-onset diabetes in obese children were reported for the first time (Royal College of Physicians, 2004). For the first time fatty deposits have been identified in the arteries of teenagers. This is one of the first signs of cardiovascular disease (James and McColl, 1997).

Sixteen per cent of children between the ages of 2 and 15 are obese and 30 per cent are either overweight or obese (Department of Health, 2002). If current trends continue then by 2020 at least one-third of adults, one-fifth of boys and one-third of girls will be obese (Department of Health, 2002).

The reasons for the obesity epidemic are well researched and multi-factorial. One significant factor is that children's diets contain too much fat, sugar and salt and too few starchy foods, fruit and vegetables. On average, the proportion of calories children derive from fat is close to the recommended 35 per cent. However, 12 per cent of boys and 17 per cent of girls derive more than 40 per cent of their food energy from fats. In addition, 92 per cent of children exceed recommended levels for the amount of food energy derived from saturated fat.

Among 4-6 year olds, salt intakes are 30-50 per cent higher than recommended. Eighty six per cent of children exceed maximum recommended intakes for non-milk extrinsic sugars (NMES). On average a third of total added sugar came from soft drinks while a fifth came from confectionery (Stationery Office, 2000).

Even if children are not overweight, the fatty, sugary and salty foods they are eating, coupled with low consumption of fruit and vegetables and wholegrain cereals, is increasing their risk of developing heart disease and some cancers (Department of Health, 1994, 1998. World Cancer Research Fund, 1997).

Analysis of government surveys of school-aged children's diets show that between 1983 and 1997 children's average intakes of sugary soft drinks increased from 1.4 litres to 2.4 litres a week. This represents an equivalent

increase from about 28 teaspoons of sugar to 48 teaspoons of sugar a week, in soft drinks alone (Food Standards Agency, 2000). The consumption of crisps has also increased. Between 1998 and 2002 sales of products aimed at, or popular with, children increased by over 25 per cent – from £336m to £424m (Mintel, 2002).

SCHOOL MEALS

About one-third of children eat a meal prepared at school (Mintel, 2000). Every school day more than 3 million school meals are served (Local Authority Caterers Association, 2004). School meals make a vital contribution to the dietary intake of schoolchildren. The National Diet and Nutrition Survey of Young People aged 4 to 18 shows that in 11-18 year old children school meals contribute between one-quarter and one-third of the daily intake of energy, fat, dietary fibre, iron, calcium, vitamin C and folate (Stationery Office, 2000). This contribution is greater for children who receive free school meals (Bowler and Turner, 2001). School lunch is especially important for children who through choice or low parental income skip breakfast (Nelson et al, 2004).

Getting nutrition right in schools will have a positive impact on the health of a large proportion of children. To date, most health policy has focused on interventions in schools, with the government encouraging schools to adopt a whole school approach to food and nutrition. The Healthy Schools Initiative seeks to promote health education through local education and health partnerships and has led to initiatives such as breakfast clubs. The National Fruit Scheme entitles schoolchildren aged 4 to 6 in the UK to a free piece of fruit each day. Concern about the quality of children's diet led to the re-introduction of the national Nutritional Standards for school lunches in 2001.

THE RESEARCH

As the school environment plays a vital role in children's diets and food culture, Barnardo's wishes to bring the voices of children and young people themselves into the debate. Listening to what influences children in their food choices and making these central to any policy interventions is crucial if the diets of schoolchildren are to be improved.

Methods

This research consists of two linked studies. One was undertaken by experienced researchers from Barnardo's investigating the views of children and young people about their food preferences and choices in schools. The other – conducted by a qualified nutritionist from the Food Commission – forms an assessment of the nutritional value of food consumed by children and young people while at school for one day of the week. Together they offer an extremely useful picture of the processes and factors that influence children's food choices and nutrition in schools.

The majority of schools in this study were contacted with the help of Barnardo's services. Barnardo's works closely with schools in areas of high deprivation, a factor that influences the significantly high percentage of children receiving free school meals (FSM) in some of the participating schools (see appendix 1).

In total 174 children and young people were interviewed in 9 schools in England, Wales and Scotland. Forty-seven focus group sessions took place in small groups of approximately four children, using a variety of age-appropriate methods (see appendix 1).

The nutritional analysis of school meals and packed lunches was carried out in three of the participating schools: a nursery school, a primary school and a secondary school. In each school, four packed lunches and four school meals were randomly selected and analysed for their nutritional content and compared to Caroline Walker Trust guidelines for school meals (see appendix 2). The analysis was carried out for one day of the week and compared to Caroline Walker Trust guidelines.

Findings from the research

THE LUNCHTIME ENVIRONMENT

"I normally have chips and normally have fish and normally have pop and chocolate and crisps"

The term 'obesogenic' environment has been used to describe modern environments which encourage and promote high energy intake and sedentary lifestyle (James et al, 2004). Even the school environment, particularly secondary schools, could be termed an obesogenic environment. Advertising and promotion of foods to children is not limited to television, shops and restaurants. The House of Commons Select Committee in its report on obesity states ***'we were surprised to learn the full extent of food promotion now taking place in schools'*** (House of Commons Health Committee, 2004). Participation in commercial sponsorships and the provision of vending machines in schools are two key ways in which unhealthy foods are promoted to children in schools. A medium-sized secondary school can expect to make £10-15,000 a year from vending machines (House of Commons Heath Committee, 2004).

The environment in which children and young people eat their lunch varies significantly depending on their age group, in terms of the choices available, the social aspect and the types of food available.

The Caroline Walker Trust Guidelines refer to the average nutritional value of meals provided over a week. So, for instances one or two meals may increase the average iron value over the week. However if children and young people routinely choose highly-processed fast foods which are low in micronutrients, there will be little change in the nutrition profile of meals over the week.

A nursery in a deprived area of London

The nutritional analysis of lunches of children aged 4 and 5 were at the outset completed in only one nursery. However, after our initial contact with this nursery, their catering company was made aware of the date of our visit. This prior knowledge led – according to nursery staff – to extra salad, fruit and yoghurt being available on the day our nutritionist carried out the research. Due to this bias, a second nursery was contacted and included in the study.

In both nurseries the social aspect of eating together was emphasised. At lunchtime small groups of four and five children were seated around tables with one or two members of staff. Before lunch was served, children laid the tables with mats, plates, cutlery and glasses and served themselves with water from jugs. The food was presented in small bowls on the table. The children were encouraged to try all foods provided, even when they said they did not like it.

For instance small portions of salad were put on all the children's plates. Throughout the meal, staff would persuade children to eat at least some of all the food on their plate, while leading by example. The two-course lunch lasted approximately an hour.

The weekly menu of the nursery included meals from different parts of the world, reflecting the cultural diversity of the children.

'The national nutritional standard for school lunches', guidelines set by the government, stipulates that there should be 'at least one portion of fruit and vegetables' in nursery school meals. The fruit and vegetable provision in this nursery was very good. Including the fruit provided in the morning break, on average just over 2.5 pieces of fruit or vegetables were given each day. The only drinks available to the children were water and milk, in line with governmental guidelines and health promoter's advice. In health terms this is ideal as children are forming their eating and drinking habits at this age. Encouraging them to have water or milk as their usual drink, and limiting the choice of food to healthier foods is therefore desirable.

Overall the estimated macronutrient content of the nursery meal met the Caroline Walker Trust guidelines for carbohydrates, fibre and protein. However, total fat, saturated fat and sugar levels exceeded the maximum recommended level. The high sugar content derived primarily from the pudding (apple crumble and custard). In terms of micronutrients, average values for iron, calcium and foliate met the Caroline Walker Trust guidelines. However, the average sodium content is half the recommended maximum daily intake for that age group, and is therefore too high (see appendix 3 for details).

An inner city primary school (free school meals 40 per cent)

Children having packed lunches were seated at long tables at one end of the dinner hall, while children having school meals were at the other end, near the food counter. The lunch hour had staggered sittings for each year, but by the end of the lunch break there were still enough fruit and vegetables for the children to choose. The food was laid out at the counter so that children were presented with healthier options first. Catering staff served the main portions to the children on plastic moulded trays. Older children served themselves vegetables, salad and fruit. Lunch lasted approximately 30 minutes.

It was possible for children to make healthy choices from the food provided. However, as older children served themselves with side dishes, none of their meals included significant portions of vegetables or salad and only one of the four recorded school meals included fruit. Estimated values for energy, fat, saturated fat carbohydrate and fibre failed to meet the Caroline Walker Trust Guidelines. Estimated micronutrients values were too low for iron, calcium,

vitamin A and folate (see Appendix 3). This may again be because children were able to choose their own meals. One boy, for instance, chose only barbecued chicken wings and a portion of ice cream.

The school takes part in the government's 'fruit in schools' scheme and some promotion of healthy eating takes place in the school. Water and milk were the only everyday drinks provided, which is in line with healthy guidelines.

Children bringing packed lunches are not permitted crisps and chocolate bars. Packed lunches were put on coloured plastic plates so staff could check that the children were following these rules. However, it was evident from our visit that children were bringing crisps and small chocolate bars in their packed lunches.

The estimated nutritional values for lunchboxes were too high in saturated fat and too low in fibre. The approximate micronutrient levels for lunch boxes were also too low. Only two out of four included fruit, while all contained crisps and three out of four included confectionery or biscuits. Only one sandwich contained salad, and all sandwiches were made from white bread. The average sodium content for lunch boxes was also too high, according to the government's recommended daily intake for 7-10 year olds.

A suburban secondary school (free school meals 16 per cent)

The main school canteen was situated at the back of the assembly hall. Those young people with packed lunches were seated in the hall on chairs without tables. Pupils having school meals were seated in the canteen area on either small or long tables. The canteen and other 'snack shack' provided a vast array of choice, particularly of less healthy foods and drinks. All the meals analysed were hand-held, on-the-go foods. This reflects teenage culture and tends to be very popular with teenagers. Lunch lasted approximately 15 minutes.

Although a few healthier meals (one vegetarian option) were available, there were 10 processed meat and vegetarian choices, including turkey twizzlers, cheeseburgers, hotdogs and breaded chicken. All the school meals analysed in this research consisted of a cheeseburger, and/or chips and/or a fizzy drink. The energy content of these meals failed to meet one-third of the young people's daily requirement and none included any fruit or vegetables. The average nutritional value of school meals and lunchboxes met only one guideline level for micronutrient content: vitamin C. Estimated levels of vitamin A, folate, iron and calcium did not meet the recommended minimum levels as set by Caroline Walker Trust (see Appendix 3).

Just within the canteen area pupils had 27 opportunities to choose different brands of sugary soft drinks and 21 opportunities to buy low-sugar artificially-

sweetened soft drinks. In comparison, pupils had four opportunities to choose water and five to choose pure fruit juice. In total there were 28 opportunities for pupils to purchase different brands and flavours of chocolate and confectionery, compared to only 5 opportunities to purchase fruit or fruit salad. Finally, there were 18 options of different brands and flavours of crisps within the school canteen.

Most food promotions in the school are for less healthy foods, such as sausages in baguettes, Nutrigrain (which according to government guidelines contains high levels of added sugar) and Walkers crisps. Mars and Coca Cola sponsor six vending machines – four in the playground and two in the canteen – and have their logo on all rubbish bins in the school. One of these vending machines provided artificial additive-free products, and one offered bottled water. There was one water filter machine in the canteen and at least one in the corridor. However, these carried no promotions to increase water consumption.

"I eat about six bags of crisps a day just because they are there for us to eat and there is no healthy food and I'm not happy about it"

Most of the available food in the school canteen was high in either total fat, saturated fat, added sugar and/or salt. While some healthier choices, such as pasta salad and chicken curry were present, the emphasis on and availability of highly processed fast food options and snacks far outweighed these options. With so many snack foods on offer throughout the day, it is highly possible that the young people are meeting their energy requirements by buying snacks or soft drinks from the vending machines and snack bars. Most of these snacks would not contribute to their micronutrient intake but would probably increase their added sugar, saturated fat and salt intake.

The high availability of sugary soft drinks is cause for concern, particularly as research has linked consumption of these products to increased risk of obesity (Ludwig et al, 2001. James et al, 2004). While low-sugar, artificially sweetened drinks may seem a healthier alternative, the acidity of these drinks has been shown to have a similarly damaging affect on tooth enamel as sugary drinks (Von Fraunhofer and Rogers, 2004).

DISCUSSION

As can be seen from the findings of the nutritional analysis of school meals and packed lunches, the environment in which children and young people eat their lunch and the choices available to them change significantly depending on their age. The nursery in this study emphasised the social aspect of eating together and actively encouraged the children to eat healthily. The primary school provided many healthy options, but as older children were able to choose their lunches independently, none consumed significant portions of fruit and vegetables. The secondary school, on the other hand, provided a vast array of choice, particularly of less healthy foods and drinks.

From our interview with the catering manager in the secondary school, one reason given for high level of choice was that young people would go out at lunchtime if the food and drinks they wanted were not available in the canteen.

There is evidence, however, that schools can take steps to ensure that children and young people enjoy an environment that gives positive messages about food. A pilot study carried out by the Food Standards Agency in 12 secondary schools concluded that, given the opportunity, children do make healthy choices. The 12 schools all installed vending machines containing healthier drinks, such as milk and fruit juice. Approximately 70,000 healthier drinks were bought over the 24 weeks of the trial, demonstrating that profits still can be made. A toolkit for healthier drinks vending has recently been published (Food Standards Agency, 2004).

The key to success was found to be involving students in decisions about the machines and the products and prices. More successful schools took a 'whole school' approach. If these results were extended to just one in five secondary schools in England and Wales, an extra 14 million bottles and cartons of healthier drinks would be sold each year to students (Food Standards Agency, 2004).

Many of the children and young people interviewed for this study also said that they were influenced by the easy availability of junk food in school:

I normally have chips and normally have fish and normally have pop and chocolate and crisps. I eat about six bags of crisps a day just because they are there for us to eat and there is no healthy food and I'm not happy about it. (14-year-old girl)

Recently the Food Standards Agency's research into young people's opinions about school food found that *"school meals should be healthy, and there was no resistance to the suggestion that fizzy drinks vending might not be allowed in schools."*(Food Standards Agency, 2004)

Furthermore, there is evidence that parents are keen to see unhealthy influences removed from schools, with recent research findings showing that as many as 70 per cent of parents were in favour of banning vending machines in schools (Meikle, 2003).

KEY MESSAGE FROM THE RESEARCH

The more choice children and young people have, the less likely they are to eat a healthy and nutritiously balanced lunch, which includes fruit, vegetables and complex carbohydrates

Burger boy and sporty girl

The interviews with children and young people for this study touched on many topics and areas relating to food, their preferences and choices. One activity looked at some of the stereotypes that children and young people create based on the food children eat. This was to investigate whether children link lifestyles with types of food, and whether food matters to their identity.

Burger boy

Eighteen groups were shown a photograph of a burger, chips, soft drinks and various sweets and crisps. The children and young people were asked to describe a person their own age who would choose to eat such a meal for lunch. Would it be a boy or a girl? What would the person look like? What would he or she enjoy doing? What would their family be like? Where would they live and go on holiday? The only pre-described characteristic was the person's age – the rest was up to the groups to decide (see Appendix 1 for more detail).

All but one of the groups shown the burger meal thought that a boy would choose this lunch. They had a huge amount to say about 'burger boy' and their ideas all flowed in the same direction. The character described by primary school respondents was apparently in the long tradition of naughty, greedy boy heroes from Dennis the Menace to Bart Simpson: a devotee of sweets and ice-cream, TV watching and trouble-making. Older young people were more likely to suggest a more negative view of his personality – linking poverty, laziness, junk food and anti-social behaviour.

Most groups said that the boy would be chubby, fat or overweight. A few groups described him as 'normal size', but all said that he would not be bothered about what he ate. He would wear baggy clothes or extra large jogging bottoms. When describing the boy's interests or hobbies, most groups said that he wouldn't have any hobbies, but would spend his spare time eating and snacking on crisps, sweets and popcorn.

When he comes home from school, straight away he goes to McDonalds and he never miss the ice cream man, when the ice cream man comes in his van he never misses it (10-year-old girl)

He would also spend a great deal of time 'chilling out' in front of the TV watching football or wrestling. His favourite programmes were the adverts, cartoons and cooking programmes. The boy was often described as lazy and naughty. Many said that he didn't care about rules, was disrespectful and might even be a bully. A few groups even said that he would steal sweets from the shops and be a member of a gang that got into fights.

He is very naughty and he does stuff when he is not allowed to and he drinks beer without his mother knowing (10-year-old boy)

Asked what the boy's family would be like, most groups said that they would be lazy and fat too. One group said that the family's obesity was genetic, while another group suggested that his family couldn't be bothered to cook proper food. Some young people mentioned that his family wouldn't be rich, might live in a scruffy and messy house. It was suggested that his parents might be drug addicts, unemployed or working at Burger King. It was generally agreed that the boy and his family would go on holidays in the UK, either on a caravan holiday or visiting family. Some primary schoolchildren said his family would be rich and live in a mansion. When asked to clarify this, the children explained that 'he has to be rich to eat that every day'.

The boy was described as having either no friends or a few fat friends who enjoyed the same kind of activities as him – specifically snacking in front of the TV. Some secondary school groups thought that he might be a 'go-er' or in a hurry and would therefore choose to eat fast food.

When children and young people were asked if they would themselves eat the burger lunch the vast majority said they would.

I would eat everything [in the picture] (10-year-old boy)

In fact, many primary schoolchildren said 'yum' and 'ohhh yeah' when first shown the picture – especially if the session took place just before the lunch break. This response was never given when children were shown the picture of the healthier meal. However, some secondary school girls were concerned about the calorie content of the burger meal:

It looks nice, but it is just fatty food to me . . . How many calories was that? (14-year-old girl)

Sporty girl

Twenty-one groups were shown a photograph of a healthy meal[2] and asked to describe a person their age who would choose to eat such a meal for their lunch. As with the burger meal, the only pre-determined characteristic was the age of the person. Groups were asked questions about the person's gender, hobbies, friends and family.

Most groups shown this picture found it hard, if not impossible, to imagine anyone their age choosing to eat the contents for lunch. In fact a common reaction among both children and young people was that 'no one' would eat that. When prompted, all but one group, said it would definitely be a girl choosing to eat the healthy lunch.

Both primary and secondary groups described, regardless of geographical location, the same 'goody-goody' girl who never breaks the rules. The teenagers created an image of a healthy and rich 'supermodel' with clear skin and white teeth, who behind her healthy image is obsessed with exercise and struggles to maintain her weight. The primary schoolchildren described a posh girl, who does well at school, is physically active and eats all her greens without encouragement.

"You couldn't really eat that . . . children eat fatty food"

Most groups described their girl as a skinny or thin person who would take part in a range of sports, such as jogging, swimming and athletics. She would be healthy and care about her looks or appearance. Some groups said she would aspire to become a model or an actress, while others thought that she would be 'brainy' and a teacher's pet who loved reading.

She is very hard working and very good . . . yes, she needs plenty of sleep so she goes to bed at 9 o'clock (9-year-old girl)

In terms of appearance, a few secondary school groups mentioned that the girl would have white teeth, clean skin without spots and would probably be a non-smoker. These were characteristics not mentioned by any of the primary schoolchildren. Both age groups said that she would wear jeans and a short top or tight clothes to show off her figure. Asked about her favourite TV programmes, children and young people mentioned, 'Vets in Practice', 'Who Wants to be a Millionaire' and healthy cooking programmes.

2 The researchers deliberately avoided – throughout the interviews – introducing terms such as 'health' and 'healthy eating'. Hence when such terms are mentioned in the findings children and young people initiated the topic.

Some groups said – almost as a second thought – that she might be on a diet or trying to lose weight. One primary school boy suggested that she would be anorexic. However, all group emphasised that she was healthy, sporty and active, regardless of her weight. Choosing a healthier meal was also linked to a concern about possible long-term health problems. One group said she would have 'less chance of having a heart attack', while another group though it would be someone who 'cares about what they will look like when they are older as well'.

"A lot of posh people don't eat unhealthy food they like being healthy"

One of the most common initial responses about the picture was that only a posh person would eat such a posh meal. All the groups interviewed said that the girl would live in a posh house either in the countryside or in London. The descriptions of the girl's home and lifestyle were often very detailed; one group described her house as a big, pretty and peachy coloured mansion. Another group said it would be a big house near David Beckham, while others mentioned that 'sporty girl' would have her own private gym in the spare room. None of the children and young people interviewed said that the character would be poor or live in a scruffy house.

When asked to clarify what they meant by posh, primary schoolchildren could generally not explain the link they had made between this meal and a posh person. Some secondary school groups explained this by saying that healthy food is expensive, or that posh people would not choose to eat unhealthy junk food.

A lot of posh people don't eat unhealthy food they like being healthy. (15-year-old boy)

The character's parents were generally described as rich, but very strict and health conscious people, who would work in an office and eat similarly healthy food. The family would enjoy activity holidays in far away places like Spain, Australia and Barbados.

On many occasions the girl was described as obsessed with her health and weight, especially if she ate that type of food on a daily basis.

I would probably eat all that, but I couldn't eat it every day and get obsessed. (14-year-old girl)

Some young people described a connection between being strong-willed, having a high self-esteem and eating healthy food, as only people feeling happy and confident about themselves would always eat healthily and avoid fatty comfort food.

Well if they're sad they won't be eating that, I think they'd be eating fatty food and chocolate and stuff like that – comfort food (15-year-old girl)

For young people eating healthy food was also seen to be a reason in itself for 'sporty girl' to feel good about herself, as she had been able to resist all the unhealthy, but nice temptations that young people encounter every day.

The girl did generally have some friends, but they were either jealous of her posh house or very healthy themselves. A few groups said that she would be picked on as she was 'too healthy', 'too brainy' or 'works too hard', characteristics that other children apparently don't like.

She walks around on the grass because no one will play with her . . . because everyone plays football and stuff and she is just doing her jogging (9-year-old boy)

When questioned, most respondents said they would eat some parts of the meal – the majority would drink the milk, eat the apple, or pick the yoghurt, and some would eat the carrots, but the overall impression of 'healthiness' meant that children and young people would not *choose* to eat this meal.

DISCUSSION

What children eat clearly categorises them in each other's eyes in the same way that the clothes they wear, or their interests do. The characters developed in this activity reflect some of the stereotypes about health and obesity portrayed in the media. Their common origins are suggested by the fact that the stereotypes were remarkably similar in all the regions of England and Wales where the research was carried out. Although the stereotypes are somewhat crude, they were also deeply felt. Being popular, or at least accepted by one's peers is vital to children and young people – choosing to be different by eating 'strange' healthy food is clearly very hard for girls, and just about impossible for boys.

Some groups found it more difficult to build up a character from the information that they chose to eat the healthier lunch, as they found it impossible to imagine anyone their age actually *choosing* to eat such a meal:

You couldn't really eat that . . . children eat fatty food (10-year-old girl)

Sporty girl was different: so much richer, cleverer and sportier than themselves that, for many, she was simply too strange to be imagined at all. When prompted they all described a 'posh' girl living an active lifestyle with plenty of variety and lots of sport and fitness activities. She was portrayed as a 'teacher's

pet' who went on expensive holidays with her wealthy, but strict parents. The underlying factor is that sporty girl does not exist in most children and young people's reality – they don't know her. Based on her choice of food, she is described as an idealised person who only exists in adverts and movies, where everyone is rich, active and healthy.

'Burger boy' on the other hand, is a child everyone knows – he could in fact be most children and young people. Although he is described as naughty and lazy, he is still an attractive character, especially to younger children, because of what he eats.

"Girls eat nothing – boys eat everything"

There is no doubt that children and young people view fast food as the most tasty and desirable food. But more importantly, eating healthy food almost rejects the intrinsic meaning of what it is to be a child or a young person. The expectation, among both children and adults, is that children are *supposed* to prefer unhealthy food.

. . . Like there're thousands of crisps [in the canteen] and you're like – we're kids – do you know what I mean? Kids don't usually want to eat healthy food . . . (14-year-old girl)

Income

Both stereotypes indicate that there is a direct link between children's perceptions of the food people eat and their affluence – as reflected in the leisure-prominent lifestyle they are portrayed as living.

When asked to clarify why 'sporty girl' lived in a posh house, many of the young people interviewed explained that healthy food is expensive. Sadly, some of these 15-year-olds have gained this knowledge though personal experience in their school canteen, where a jacket potato with one filling and salad costs more than twice as much as a burger and chips and a bottle of water is double the price of a can of cola.

Gender

The stereotypes that children and young people produced were also very gender-specific. Most groups had no hesitation in suggesting that only girls would choose to eat a healthier lunch and that boys would be more likely to choose the unhealthy burger meal. While recent figures on children's obesity show that fat is no longer only a female issue, children and young people's opinions suggest that girls continue to be more concerned about their weight than boys.

Girls are more careful about what they eat . . . Girls are really self conscious of what they eat, 'cos they want a figure and want the lads to like them (15-year-old girl)

Girls eat nothing – boys eat everything (10-year-old girl)

While girls were perceived as being careful about their diet and more likely to worry about their weight, boys on the other hand were seen to eat whatever they fancied. In this activity boys were described as 'the greedy ones' and as likely to 'eat more fatty food' than girls.

When you think of boys you think of sweets, you think of chocolate . . . Yeah, they think they are already strong so they don't have to go on any diets (10-year-old girl)

The pressure on girls, either self-imposed or from others, was also seen in the many spontaneous comments girls made about their weight. This was especially the case in all-girl groups, in both the primary and secondary age groups. However, these gender perceptions did not necessarily translate into marked differences in what children ate. The questionnaire survey showed no significant gender difference in terms of the type of food boys and girls had in their lunch box or for their school meal, with just as many girls choosing crisps, chips and puddings as boys.

"Girls are really self conscious of what they eat, 'cos they want a figure and want the lads to like them"

KEY MESSAGES FROM THE RESEARCH

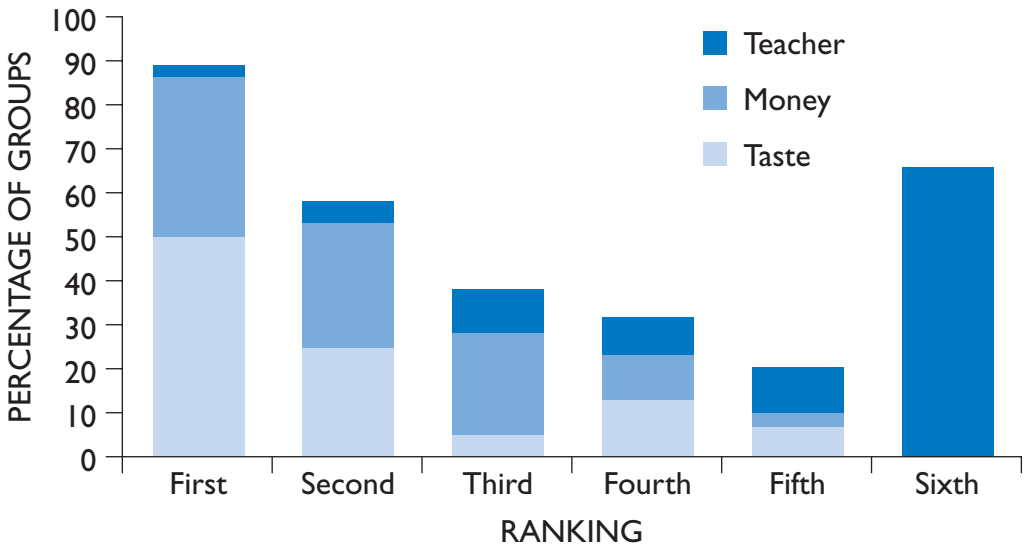
Only very wealthy, clever, sporty girls could ever be imagined as choosing a healthy lunch – although nobody had ever met such a girl. *Real* boys definitely don't eat healthy food.

Choice and taste

The choices children and young people make when deciding what to eat are primarily based on taste – what they fancy, what they feel like, and what their taste buds dictate.

"Cos if you buy it and you don't like it then it's just a waste of money"

Graph 1 – Influences on food choices



When asked to rank different factors (friends, family, adverts, teacher, money and taste) that influence their food preferences, two issues seemed to play a significant role in children's choices: taste and money. Most children and young people named teachers as the least influential factor. Teachers were simply not seen to have anything to do with what children chose to eat, even in schools. This was especially the case for secondary school groups, even though many of them had learned about nutrition in 'food and technology' classes.

As can be seen from Graph 1, 50 per cent of groups rated 'taste' as the single most important factor when choosing what to eat. As one secondary school girl pointed out 'if you don't like the taste you are not going it eat it'.

Cos if you buy it and you don't like it then it's just a waste of money (14-year-old girl)

The importance of taste may seem obvious: most people – adults as well as children – know what food they like and don't like. But taste is an important issue because of the *type of food* that children and young people have a taste for. The preference for food high in sugar, fat and salt is predominant and

develops from a very early age. As one 15-year-old girl put it, 'everything tasty is fattening'.

When nursery children aged 4 and 5 were asked what *they* would choose for lunch from a selection of food toys, they all chose food high in fat, salt and sugar: chips, burgers, hot dogs, pizza, cakes, ice cream, doughnuts and crisps. The only exceptions to these unhealthy food choices were fruit and fruit juices, which nursery children seemed to enjoy because of their sweet and palatable taste. Nevertheless, younger children clearly already have a strong preference for less healthy, but highly desirable foods.

Neither nursery nor primary schoolchildren mentioned reasons other than taste to choose food. Some secondary schoolchildren did suggest other issues that might influence their food choices, such as being vegetarian due to concern about animal cruelty, or dieting to lose weight, but they continued to emphasise the importance of taste. Most children and young people put a very low priority on eating something mainly for health reasons.

Most of the children and young people interviewed seemed to have a relatively clear, if somewhat basic, idea about what healthy eating entails[3]. Items mentioned as part of a healthy diet were water, milk, fruit and vegetables, and to avoid fatty junk food. A few also highlighted the health consequences of eating an unhealthy diet, such as becoming overweight and having heart attacks and blocked arteries. However, only a few saw the need to apply this dietary knowledge to their own food choices. Eating healthy food was simply not a priority for children, partly because it wasn't seen as their responsibility to do so.

They are saying that we are going to be the generation that are going to be overweight and that, but we can't help it, what's in our canteen . . . (14-year-old girl)

What to have – packed lunches or school meals?

In primary schools, packed lunches appear to have a slightly higher status than school meals. The children gave two reasons for this, one involves the 'freedom of choice' and the other the 'quality of food'.

For primary schoolchildren it was desirable to eat food prepared at home, because it offered children a greater opportunity for input into the content of their lunch box. Bringing packed lunches meant that children could specifically

"They are saying that we are going to be the generation that are going to be overweight and that, but we can't help it, what's in our canteen . . . "

3 One exception for this was cereal bars. Many children and young people described cereal bars, such as Nutri-grain as a healthy choice, although they tend to be high in sugar. This confusion may partly originate in how cereal bars are promoted – as part of a healthy diet.

ask for things they liked and avoid food they did not like. This freedom to choose what to have for lunch was envied by a few of the children having school meals.

How does it feel to have your own food? . . . Like crisps, because we are not allowed to eat anything except school dinners, with packed lunches you are allowed anything you want, except for sweets and chocolate (10-year-old girl having school meals)

Packed lunches were frequently described as an extension of home food: children had more control over them and also knew under what conditions the food had been prepared. A significant proportion of children and young people bringing packed lunches described school meals as 'greasy', 'soggy', 'not cooked properly' and 'low quality'. The appeal of having 'your own food' seemed to be a strong one.

"If school dinners don't taste right it don't taste right 'cos someone else has cooked it"

[Interviewer: What's better about having packed lunches?]

Because it's your food. If it [school dinners] don't taste right it don't taste right 'cos someone else has cooked it. (10-year-old boy)

The slightly higher status that packed lunches enjoyed in many of the participating primary schools may also derive from the perception among children that packed lunches are a more expensive choice.

My friends think that packed lunches are more expensive, but in a way it is a little bit . . . It is expensive but it is worth it. (9-year-old girl)

Children were generally aware that money or cost affected their choice. A large proportion of primary schoolchildren in this study were eligible for free school meals (the percentages of FSA varied between 40 and 70 per cent). Due to the extra cost of packed lunches compared to free school meals, children were less likely to convince their parents to change to packed lunches, even when this was preferred.

Cost also mattered to those not receiving free school meals. Children who were not eligible for free school meals reported that their parents thought school meals were too expensive and they consequently had packed lunches to save money.

I used to be on dinners, but me mum didn't have the money. We didn't go on holiday this year, because me mum didn't have the money. We are going to Benidorm all inclusive next year . . .

[interviewer: so she decided that you should have packed lunches instead?]

. . . Yeah, she needed to save up the money. (10-year-old boy)

Secondary schoolchildren, on the other hand, seem to think of school meals as the more expensive option of the two. This might be partly because secondary schoolchildren pay for their food every time they purchase something, while primary schoolchildren's school meals are paid for on a weekly basis by their parents or local authority. But school meals were also more expensive in the participating secondary schools, particularly if you wanted something other than burgers and chips. To have a two-course meal cost approximately £2 in secondary schools compared to approximately £1.45 in primary schools. On top of that, young people have to purchase a drink, while the younger children were provided with free water, milk or squash.

"I have the same dinner over and over again"

However, despite the costs incurred by children and their families, only between 31-35 pence is spent on school meals by caterers compared to £1.74 spent per prisoner per day on food ingredients (Soil Association, 2003).

The choice between packed lunches and school meals was often a decision children made in conjunction with their parents, and it consequently involves many – sometimes contradictory – influences. For example the convenience of school meals was mentioned by several primary schoolchildren as a reason why their parents would not let them swap from school meals to packed lunches, although they themselves favoured packed lunches. Furthermore, the decision was generally not a once-made choice, as some children alternated between school meals and packed lunches, while others had to have school meals when their families occasionally ran out of bread!

Food choices in school

Primary school groups often explained that school meals did not offer much choice as they have the same menu repeated every week, so that Wednesday is 'curry-day', Thursday 'spaghetti bolognaise' and Friday 'fish fingers and chips'. For them choice was a matter of turning up in the dinner hall and having whatever was there.

. . . I have the same dinner over and over again (10-year-old boy)

I just look at what there is and pick what I like (9-year-old girl)

Although in reality primary schoolchildren had fewer food choices than secondary school students, they complained less about their lack of choice than the teenagers and they were happier overall with their lunch (see Appendix 4 for details).

In terms of what they choose to eat, secondary schoolchildren seemed to have slightly different concerns to the younger age group. Although many teenagers mentioned poor quality food in their school canteens, none said they preferred packed lunches because of the greater freedom of choice it offered. Compared to primary schools, secondary schools offered plenty of different food choices, although many choices were in the unhealthy category.

"There is always load of chips, always loads of chips and wedgies, always"

However, secondary schoolchildren who use the canteen frequently said that 'good' food would run out quickly. Food described as running out quickly included: jacket potatoes, baguettes, roast chicken and certain 'good' sandwiches.

If you go late then they [the canteen] won't have any food left . . . say you wanted chicken drumsticks, because they are the most popular, when they have the drumsticks or chicken wings, they will only have a small portion and they will all go with only five or six people buying them, then when you go to get them and ask if there are anymore, 'no, they are finished' . . . but there is always load of chips, always loads of chips and wedgies, always (15-year-old girl)

The issue of food running out is confirmed by a recent joint report from the DfES and the FSA. This highlights that although 83 per cent of secondary schools in their survey met all the nutritional standards for school meals every lunch time at the beginning of the service, this had fallen to 47 per cent by the end of the service (Nelson et al, 2004).

While this was a problem mentioned by most secondary school groups, only one primary school child highlighted the problem of 'good food' running out.

Other special concerns mentioned by teenagers were: being on diets, being vegetarian or trying to eat more healthy food – all factors that restricted their choice of school meals.

It depends what you feel like . . . If I want something healthy I bring it from home cos there's not much in the canteen (14-year-old boy)

DISCUSSION

School meals are important for those children on free school meals as well as for those in low income families. If children receive a nutritious meal while at school at an affordable price this may compensate for the fact that many low income families struggle to afford a healthy diet at home.

Households in the bottom 10 per cent of the income distribution spend on average 29 per cent of their disposable income on food (after allowance for housing costs), while those in the top 10 per cent spend 18 per cent. Low income families with children tend to spend a relatively small amount of money per person on food. This leads to the purchase of foods higher in fat and sugar to satisfy hunger. These are much cheaper per unit of energy than foods high in vitamins and minerals (like fruit and vegetables) (British Medical Association, 2004).

The Poverty and Social Exclusion Survey has furthermore reported that around one in ten 'poor children' did not eat fresh fruit or vegetables daily (Gordon et al, 2000).

KEY MESSAGES FROM THE RESEARCH

Taste is a key factor when children and young people choose what to eat, followed by actual or perceived cost.

Friends and peer pressure

"It's nothing to do with me, if she likes it, she likes it – it's her taste buds"

Literature on children's peer pressure highlights that children and young people are strongly influenced by their friends and peers, in terms of how they dress, the language they use and what activities they do[i] (Simpson et al, 1998). With this research we wanted to investigate how significant peer pressure is on children and young peoples' food preferences and food choices. Do children and young people find it embarrassing to eat vegetables with their school dinner; would they rather die than be seen with carrot sticks and raisins in their packed lunch?

Most of the children and young people we spoke to told us that they talk to their friends about food, especially about what they like and don't like to eat. Some talk about their choice of snacks, while others discuss what they have in their packed lunches and whether they like it or not. For children and young people who have school dinners, common topics are the problem of 'good' food running out and the quality of food available.

As well as talking about food, several children and young people also said that they had changed from school meals to packed lunches, or vice versa, in order to have the same as their friends. This was mainly so they could sit together with their friends during the lunch break, as in all the participating schools, 'packed lunchers' were seated separately from those having school meals. Being able to change between the two types of lunches indicates that children actively influence their parents on food issues and that friendships often are valued above what food is eaten.

The importance of friends in recommending and introducing new products and brands has long been recognised by commercial marketers. Lindstrom describes in his influential book *Brandchild* how peer-to-peer marketing is the most successful strategy when targeting brands at children and young people (Lindstrom and Seybold, 2003). Retailers have also been reported saying similar things about their teen consumers: 'They run in packs. If you sell to one, you sell to everyone in their class and everyone in their school' (Klein, 2000). One of the ways that television advertising of foods appeals to children's emotions is by associating products with peer acceptance/superiority (Lewis and Hill, 1998).

However, when asked whether friends have a direct influence on their food preferences and choices, responses were mixed. About half of those interviewed said that their friends do not influence what they eat. These

children and young people said that they just pick whatever they fancy and that the taste of food is more important than what their friends say.

We just eat with all our friends, when we get together we get our own things, what we like . . . It's nothing to do with me, if she likes it, she likes it – it's her taste buds (15-year-old girl)

The other half of those interviewed said that their friends did influence their food choices. This was mostly when friends recommended something new, such as a new brand or something tasty that they had tried. Some deliberately tried to choose the same as their friends. One primary school boy explained that he had decided to try the curry at school dinners, because that is what all the other boys ate.

Sometimes I am influenced by what my friends eat, sometimes like when they eat say a burger and chips and especially like I have been playing football or something, then I copy what they have, so my friends influence what I have. (14-year-old boy)

However, no one would eat something they do not like, just because their friends had recommended it or because their friends like it:

Sometimes it's like if your friend says 'yeah, this is really nice' then you try it, and if you don't like it then you just stop eating it. (15-year-old boy)

Children and young people would generally *say* that no one gets bullied because of what they eat, as 'it is just food'. Nevertheless there appear to be very strict, if unwritten, rules among the children about what you can and cannot eat while at school. This is particularly the case for children who bring packed lunches from home. A 'standard' packed lunch consists of a white bread sandwich with a filling – mainly ham, chicken or cheese, a packet of crisps and a chocolate bar or a biscuit, and perhaps a drink. Of the 56 children in this sample who took packed lunches, only two did not bring a sandwich (but had crackers instead). To bring something other than a sandwich, such as cold cooked food, was the cause of ridicule in many schools. In two schools, with a high number of black and minority ethnic children, groups gave examples of children and young people who had been bullied or laughed at because they brought different food from home. This is how a 15-year-old girl described the lunchtime experience of a Chinese boy in her school:

Everyone used to take the piss and he used to sit there and cry . . . He used to have chicken legs that his mum would have cooked and he would eat like three of them and everyone used to call him 'chicken boy' because he would have chicken every day for lunch (14-year-old boy)

Children mentioned occasions where they themselves or someone else in these two schools had been laughed at for bringing couscous salad, chicken and rice, Chinese and Indian food and egg sandwiches in their lunch box. When asked whether these children continued to bring in the offensive food, it was reported that they only brought it once or stopped soon after. Being bullied or teased for bringing in home-cooked food was not mentioned in majority white schools. However, as children in these schools all brought 'standard' packed lunches, they and their parents were presumably aware of the unwritten rules that surround packed lunches and would therefore not risk embarrassment by breaking them.

One way for children and young people to avoid being teased is to have school meals. As one secondary school girl put it:

I don't think anyone would get bullied if they bought it all from the canteen. It's when they bring packed lunches in and people say 'Urgh look at you – is that what you eat at home, that stinks, is that what your house smells like?' (15-year-old girl)

Having said that, some children interviewed about their school meals, reported that other children might laugh if they ate something they didn't like or if they ate too much of something. Kinds of food mentioned were jelly (looks like vomit), fish, rice pudding, salad, sausages (are disgusting) and too many spoonfuls of vegetables.

DISCUSSION

Children and young people in this study did not generally agree about the level of influence their friends and peers had on their food preferences and food choices. Some believed the influence was more important than others. However, all the groups were able to give examples where they or other children in their school had been bullied or laughed at because of what they ate. A few respondents were quick to point out that they did not *laugh at*, but *laughed with* the children in question.

Peer modelling seems particularly strong for children and young people who bring packed lunches from home, as practically all packed lunches were identical. Children and young people gave rich examples of teasing and bullying when peers brought food other than sandwiches. This obviously limits the variety of food that children have in their packed lunches, and therefore restricts the

nutritional value. As we found when analysing the nutritional value in a small sample of packed lunches in the participating schools, the 'standard' packed lunch is too high in saturated fat and too low in fibre. Although some packed lunches in the sample contained fruit, none provided enough micronutrients according to the Caroline Walker Trust guidelines. The majority of foods provided in the lunchboxes were highly processed and hence were high in added sugar, salt and fat and significant low in fibre and micronutrient content, such as iron, calcium, vitamin A and folate (see Appendix 3).

The poor nutritional value of the standard packed lunch is an important issue, as parents often view packed lunches as a healthier option than school meals. However, looking at the findings from the nutritional analysis and the lunch questionnaires, it is possible to argue that this is not the case, especially in primary schools where the availability of fast food in the school canteen is relatively limited. Packed lunches are three times more likely to contain crisps than fruit. Of the 56 children and young people who brought packed lunches 55 per cent brought crisps, 27 per cent had chocolate, while 23 per cent had cake or biscuits. 16 per cent of 'packed lunchers' had more than one 'unhealthy' item, with some children eating four or five unhealthy items in their lunch break. These figures stand in stark contrast to the 18 per cent (10 children) who brought a piece of fruit in their packed lunches. This is particularly worrying as children were only asked about food eaten at lunch time, and from the interviews we got the sense that snacking on sweets, crisps and chocolate also took place in the morning and afternoon breaks. These worrying statistics are confirmed by a survey looking at 556 children's packed lunches in 24 schools across England, Wales, Scotland and Northern Ireland (Jefferson and Cowbrough, 2003). Children simply do not bring carrot sticks and raisins, because they do not conform to the 'standard' packed lunch.

Some children and young people interviewed stressed that children will not get bullied simply because of what they eat, but said that if they are already targets of bullying, unusual food might make them more vulnerable to ridicule. So while children may not acknowledge the full extent of peer modelling, food does appear to be one of many features that can make children and young people stand out from the crowd.

KEY MESSAGE FROM THE RESEARCH

In the context of school, peer pressure controls children's food choices and conformity to the lunch box rules is rigidly enforced

Family and rules

There has been a strong tendency in the media to blame parents and poor parenting for the UK's rising obesity problems among children. In this view, if parents could just be bothered to cook rather than rely on fatty convenience food then all problems would be solved.

"I'm allowed to eat whatever I want because I'm thin. I don't put weight on when I eat!"

However, children and young people spend many hours a day away from home in schools and nurseries. Most children, some even very young children in childcare, eat at least one meal a day away from home. This research explores the role of parental influence in situations, such as school, where children and young people are left to make their own food choices to a large degree. In such settings, parents and carers have less direct control over what their children choose to eat, especially if they eat school meals. However, even with packed lunches, parents have no way to guarantee that food is not swapped or even binned.

To find out how far children are influenced by factors other than their parents we asked whether there were any rules at home about what they were allowed or not allowed to eat. The researchers were surprised to learn about the overall absence of rules in many children's homes. Just over half of the children and young people interviewed *explicitly* said they did not have any rules at home about what they could or could not eat, with many stating that they were allowed to eat anything they wanted.

No, my mother don't care she let's me go in the cupboard and do what I like. (10-year-old boy)

Although slightly more primary schoolchildren had rules at home, the difference between 'tweenagers' and teenagers was not great.

Some caution should be placed when viewing these findings, as rules were self reported by children, and parents did not have the opportunity to confirm whether food rules existed in their home or not. It is nevertheless significant that, from the children's perspective, just over half of them have no restrictions whatsoever on what they are allowed to eat.

I'm allowed to eat whatever I want because I'm thin. I don't put weight on when I eat! (9-year-old girl)

For the children and young people who had some rules at home, none mentioned complete bans, but rather limits to when, how often and how many sweets, chocolate, crisps and chips they were allowed to eat.

When I get home from school I'm not allowed sweets before my dinner. I'm not allowed too much chocolate. If I have too many sweets I get hyper (10-year-old girl)

For children in schools with a high percentage of black and minority ethnic children, many of the food rules mentioned were linked to religious restrictions, such as not being allowed to eat pork or beef. Family rules regarding confectionery and fast food were often described as flexible and dependant on the situation. Some children were also aware that rules varied between different parents.

When I am with mum I am not allowed to eat sweets, but when I go to my dad's house I am allowed (9-year-old girl)

"When I am with mum I am not allowed to eat sweets, but when I go to my dad's house I am allowed"

That rules varied in different situations and especially in different settings seemed to be completely natural and accepted by all the children. In the four participating primary schools, for example, children said that fizzy drinks were banned at lunch time and that there were some restrictions on their consumption of sweets and crisps at playtime. However, some children in these schools explained that although they weren't allowed certain products at school, they could have them at home. The fact that school rules differed from home rules did not seem to cause any confusion or resentment among the children. However, although some schools did not permit crisps and chocolate bars it was evident from the visits and the lunch questionnaires that rules were not always enforced.

As less than half of the children and young people interviewed were guided by family rules on what to eat, only a very small number reported breaking any food rules. For the majority rule breaking – when eating away from home – was not an issue, as they were generally free to make their own decisions about what to eat. Some young people without rules did report that they were aware that their parents would prefer them to eat healthier food than they perhaps did.

I think they would prefer it if I had a salad or a sandwich or something . . . yeah they would prefer that, but if you eat chips they don't say anything but they would prefer it, yeah (14-year-old boy)

For secondary school students with rules at home, lunchtime was an opportunity to eat more fast food than was allowed at home. Some young people said that they would consume more junk food at school just because it was widely available.

"My mum makes sure I take the right things to school..., she checks that I don't take too much chocolate and crisps."

A small number of primary schoolchildren mentioned drinking alcohol when asked if they would ever break family rules. Whether these children actually did drink shandy, beer, wine or small bottles of spirit as mentioned or whether they were just trying to impress their peers is unknown, as the researchers did not encourage them to elaborate.

DISCUSSION

Children and young people in this study had remarkably few rules governing what they were allowed and not allowed to eat or drink. It is not that families do not care about what their children eat: based on the children and young people's comments, many families are very concerned about their children's diet. However, this concern is, for the majority, not translated into rules.

Children and young people also seemed to have a huge influence not merely on their lunch choices but also on the food that was eaten at home. When asked, many children said they would choose what the family would have for dinner. Others would ask for specific items if they went food shopping with their parents.

Family structures are constantly changing as society changes. Families today are more 'democratic' than ever before. Parents may not necessarily see their role within the family as authoritarian, but rather as encouraging a structure in which everyone in the family is equal. This process of family democratisation may explain why children are having a greater say into what, when and how much they eat. Consequently parents' roles are tending more towards influencing and encouraging children to eat healthier food, rather than dictating what they should eat using bans and rules. However, this approach may be problematic when children base their food choices predominately on instant and immediate needs, such a taste and energy, rather than on long-term concerns over, for example, their future health.

KEY MESSAGES FROM THE RESEARCH

Few children reported being subject to family rules concerning f with most believing they were allowed to eat more or less what the liked by their par

Food advertising and loyalty to brands

Concerns over food promotions to children have been raised many times in the last few years by various interest groups. Research has shown the importance of brands to children of all ages, by highlighting that the relationships that children form with brands often become central components of their lives (Lindstrom and Seybold, 2003).

"If you see it on telly and you think 'phow I'll try that!!"

Many schools are engaged in commercial sponsorships to raise money, often to purchase computers or sports equipment. This often involves advertising particular brands of snacks, especially in secondary schools. Food promotions are used to develop both an awareness of, and a preference for, a particular brand. The recent Hasting review (Hastings, 2003), commissioned by the Food Standard Agency, provides some evidence that advertising affects the categories of food that children and young people select. The review also suggests that there is reasonably strong evidence that food promotions influence children's preferences.

Children and young people in this study did not agree to what extent advertising influenced their food choices. Some groups explained that adverts were not that important or that adverts were mainly for washing powder, toilet tissue and new films in the cinema, while others thought adverts were important stimuli on their preferences. Despite this discrepancy, all were able to name food categories or brands of food being advertised, and many gave specific examples of adverts they liked. The most frequently named food and drinks adverts were: Pepsi (the one with David Beckham), McDonalds, Burger King, KFC and Coca Cola. Some children and young people mentioned how advertising made them aware of new products, such as new burgers at McDonalds. There was a general consensus that adverts made them want to try the product.

'Cos say adverts makes it look really, really nice, and like mouthwatering, you're gonna want to go out and taste it or buy it. (14-year-old girl)

If you see it on telly and you think 'phow I'll try that!! (15-year-old boy)

Adverts were seen to make the advertised product seem essential and some groups described adverts as telling you what to get.

"I think that they [the adverts] makes it sound like something you have got to have"

I think that they [the adverts] makes it sound like something you have got to have (10-year-old girl)

However, having bought the advertised food item, some children and young people said that they had been disappointed when they tried the food or drink concerned, as it did not live up to the high expectations created by glossy and attractive adverts.

One day I saw a curry on telly that they were advertising and I said 'we have got to get that it looks really nice', and a couple of days later when I went to the supermarket with my mum I looked and I thought it looked really nice on the front of the box and I brought it home and I took it out to cook it, it looked disgusting, I didn't like it and when I served it up it didn't look the same. (15-year-old girl)

The public debate about food promotion to children often focuses on whether current children and young people who have been spoon-fed adverts from babies are more 'media savvy', than previous generations of children. Based on comments made in this study children appear very aware of the purpose of advertising – namely to sell a product. As one child summed up: 'adverts are there to try and make you buy things'. Marketers who make a living of selling products to children also recognise that children and young people know the purpose of their efforts (Lindstrom and Seybold, 2003). However, despite this awareness, children also appeared to view advertising as an *information channel*, keeping them updated with what is in the shops and with what they might be expected to try or at least to have heard off.

The extent to which advertising exists in schools vary depending on the age group. Food promotions are relatively limited in primary schools, but by the time the students move to secondary schools advertising and branded products become more common.

Brands

Children and young people were asked whether it matters if their food, snacks or drinks are commercial brands, supermarket own brands or value brands. The overall view was that commercial brands are better. The reasons given for this

varied slightly. Some, especially young people, explained that they prefer commercial brands such as Walkers crisps and Cadbury chocolate, not so much because of the brand, but because they taste better. Some primary schoolchildren talked about *proper* brands like Coca Cola being cooler than cheaper brands. Other children said that having a popular brand like Cheese Dippers in your packed lunch can be used as a bargaining tool to get you onto the football team, or that peers might try to become your friend if you had a nice brand in your packed lunch. A few nursery children also showed their awareness of brands, by saying that they liked burgers from McDonald's.

"I am not bothered by the labels. I'm just bothered about what is in it"

When children and young people were asked what they had for lunch, many 'packed lunchers' in both age groups gave very detailed information about the brands of crisps (eg McCoy, Monster Munch or Walkers), chocolates bars (eg Finger Flakes, Dairy Milk or Kit Kat) and drinks (eg Capri-Sun Orange, Fanta Fruit Twist or Tizer) in their lunch box. This detailed knowledge of various brands suggests that brands are significant to children's lives

However, the extent to which commercial brands were believed to matter somewhat depended on the 'school culture'. In one secondary school in this study, the canteen sold cheaper brands. Consequently young people reported that it was acceptable to drink cheaper brands in school. The other secondary school had a very different 'school culture' with branded vending machines, Coca Cola-sponsored waste bins and a canteen that focused exclusively on commercial brands. Many young people attending this school told us that they always chose commercial brands, as they did not like the taste of cheaper brands. However, regardless of their exposure to branding in school, the majority found that brands are influential when they decide what to eat or drink.

The primary schoolchildren were slightly more likely to say that they did not mind about the brand. Given the option between having no chocolate or un-branded chocolate, they would definitely choose to have the chocolate.

I am not bothered by the labels. I'm just bothered about what is in it. (10-year-old boy)

This preference for chocolate regardless of the brand does not indicate that brands are not important for children and young people. According to Lindstrom 'brands have become an integral part of the way tweens define themselves. Tweens are the most brand-conscious generation yet. It is largely through their choices of brands that tweens distinguish themselves from one another' (Lindstrom and Seybold, 2003). Groups in one primary school, which has a very high number of children receiving free school meals, discussed how embarrassing they found it to have something in their lunch box from a discount supermarket in their area, known among the children for being cheap.

Girl 1: They all laugh at you if you have cheaper stuff . . .
Girl 2: They all say 'uhhh... . . .
Girl 1: [singing the promotional television tune for the 'discount' supermarket]
Girl 2: . . . and they swear at you . . .
Boy 1: My Nana goes to [name of discount supermarket] sometimes and when I come, I have to hide if I see anyone from school. I have to go with her . . . I will be screaming because I don't want to go.

"It's the same shape, but it's imitating 'Wotsit' and some people say that this boy can't afford the proper ones"

Although children in only one primary school mentioned their embarrassment about shopping in this particular supermarket, the link that children and young people make between commercial brands and family income was evident in other schools too. Eating imitation or cheap products is interpreted as a sign that a child can not afford the more expensive commercial brands and consequently makes children stand out from their peers.

Some people make fun at the price . . . What happens is that there is this boy called Chris [named changed] and other people buy 'Wotsit', but there is this other thing called 'Cheesy'. It's the same shape, but it's imitating 'Wotsit' and some people say that this boy can't afford the proper ones . . . (10-year-old boy)

A few primary school boys interviewed explicitly said that they would eat whatever and they did not care about brands, but they came across in the groups as very resilient and used to defending their family status. An example of this was when one group discussing imitation brands got into a tense argument, when one boy suggested the other boy's family was poor and couldn't afford the proper brands. From the children's perception cheap brands are indicators of poverty.

DISCUSSION

Although children and young people disagree about the influence of advertising on their food choices, the majority said that food adverting had made them want to try the advertised product. Characters from children's programmes are frequently used in the marketing of children's food, often in the packaging and branding of the food itself. Research by the Food Standards Agency among low-income consumers indicated that parents regard food promotions specifically targeting young children as effective in attracting their children (Food Standards Agency, 2004).

Children and young people in this study were all able to name specific food categories or brands that they had seen advertised. Some viewed adverts almost as an information channel keeping them in tune with what is on the market and what might become popular among their peers. As with toys and

clothes, branding matters to children and young people's food choices. It is sometimes argued in the media that commercial branding matters less to children living in poverty, but our findings suggest otherwise. Children – some as young as 9 years old – had a clear understanding of the connection between commercial brands and family income, a connection that they were able to articulate very precisely. Brands were perceived as a tell-tale sign about a child's family's economic status.

KEY MESSAGE FROM THE RESEARCH

From a young age, children and young people have an articulated understanding of the link between family income and brands.

Conclusion

This study shows that children and young people are strongly influenced in their choice of food while at school by several complex inter-related factors. The school environment has a key role to play. In the nursery schools studied, and to some extent the primary schools where there was less choice of unhealthy options and a more 'whole school' approach, children's diets were better, although they still fell short of the Caroline Walker Trust guidelines. However, in the secondary schools the large variety of unhealthy options and an obesogenic (James et al, 2004) environment made it difficult for young people to choose a healthy diet even when they wanted to. The school meals consumed in this school fell considerably below the nutritional guidelines recommended by the Caroline Walker Trust.

Children and young people are strongly influenced by their need to conform to gender and income-related stereotypes; by friends and peers and by taste and money. There is also a strong expectation among both adults and children that there is something called 'children's food' which is fast, unhealthy food.

It is evident that urgent action is needed to ensure that food consumed while children are at school is improved. This is especially the case for those in secondary schools. This requires an understanding of the different factors that influence the choices that children and young people make.

Schools provide an excellent setting for preventing obesity and health-related problems and are the target of the World Health Organisation's 'Health Promoting Schools' Programme. The Cochrane review of prevention trials concludes that tackling excess weight among children requires a broad-based approach which involves the whole school.

Key policy recommendations

These research findings show that while schools may meet the government's nutritional standards and practices, the meals do not meet Caroline Walker Trust nutrition guidelines. Also where schools have increased the availability of less healthy foods, children and young people choose meals which fail to meet nutritional standards for school meals. The government has recently published its *Healthy living blueprint for schools* (Department for Education and Skills, 2004). As part of this initiative school meals will be reviewed in an attempt to tackle obesity in children, and ministers will review the nutritional standards for school meals. We welcome the review and strongly urge the government to ensure that it puts in place radical public health measures, with adequate financial resources, to improve the diets of schoolchildren.

Barnardo's makes the following recommendations.

The government should ensure that the Food Standards Agency's recommendations on the balance of less healthy food are properly implemented. These include setting criteria for levels of salt, sugar and fat in foods promoted to children and introducing point-of-sale information and clear labelling for salt, sugar and fat.

The current National Nutritional Standards go some way towards promoting healthy food choices but need to be improved by government to meet the Caroline Walker Trust guidelines. Choice must be restricted to a range of healthier options based on menus balanced over one week, and the provision of fizzy drinks as part of a school meal should be phased out as is the case in Scotland.

The improved nutritional standards must be compulsory and monitored on a regular basis. They should adopt a 'whole school' approach and cover all food provided on school premises, including vending machines.

The provision of all food on school premises should be inspected by OFSTED and linked to the overall performance of schools.

School governors, head teachers and teaching staff must take responsibility for the diets of children and young people in their care. They should be required to draw up nutritional plans for the school with the active participation of pupils, parents and catering staff.

All school catering staff must receive nutritional training. The government must ring-fence monies for this from the additional funding mentioned in its *Healthy living blueprint for schools*.

The government should set up a committee to review school catering arrangements with the aim of implementing a policy which enables all children, including those on free school meals, to purchase a healthy two-course meal.

School nutritional plans and the curriculum need to engage children and young people in discussions on the environmental and social factors that influence them, such as peer pressure, advertising and branding.

The government should ban branding on school vending machines in England, as is the case in Scotland and Wales.

Vending machines containing sugary soft drinks must be phased out. In the long term, school vending machines should only offer healthy food and drink choices.

The DfES must review school funding, so that schools are not in a position of accepting sponsorship from manufacturers of unhealthy foods to fund core educational activities such as teaching posts.

Funding for school meal provision needs to be ring-fenced so that a minimum amount is spent per child per meal.

Appendix 1

METHODOLOGY

Barnardo's spoke to 97 girls and 77 boys – a total of 174 children and young people in nine schools in England, Wales and Scotland.

28 children aged 4-5 in three nursery schools

92 children aged 9-10 in four primary schools

54 young people aged 14-15 in two secondary schools

The majority of the schools were contacted with the help of Barnardo's services. Barnardo's often works closely with schools in areas of high deprivation, a factor that influences the remarkably high percentage of free school meal (FSM) provision in some of the participating schools, compared to the national average.

Nurseries

Barnardo's service in South London

Private nursery in South London

Community-run nursery in Scotland

Primary schools

Primary school in South Wales (70 per cent FSM)

Primary school in inner London (40 per cent FSM)

Primary school in North West England (48 per cent FSM)

Primary school in North West England (65 per cent FSM)

Secondary schools

Secondary school in suburban London (16 per cent FSM)

Secondary school in North East England (14 per cent FSM)

Consent

Before the research took place, children were provided with information leaflets explaining the purpose and use of the research in age-appropriate language. Schools were also asked to distribute parent's consent forms, seeking permission from parents to allow their children to take part in the research. Primary and secondary schoolchildren were also asked to complete a children's consent form.

Methods

Children and young people were interviewed in groups of four for approximately thirty minutes. All sessions took place during normal school hours, so participants were interviewed in separate rooms to their classrooms. The structure of the sessions varied according to the age groups, with informal and creative methods, such as play with food toys and drawing being used with nursery children. All focus groups were tape-recorded, except on one occasion where the children did not give their permission for the session to the recorded.

The sessions with primary and secondary schoolchildren took the same format and focused on four aspects.

Lunch questionnaire. The questionnaire was filled in at the beginning of the session and served both as an ice-breaker to the topic and as a data-gathering method. Children were asked to write or draw what they had for lunch at school today or yesterday if the session took place in the morning before the lunch break. 145 lunch questionnaires were returned, providing a 100 per cent response rate.

The second part of the session was a semi-structured interview guide asking participants questions on a range of issues, such as why and how they choose their school lunch, what they like or dislike about their lunch, the influence of friends, rules at home, bullying, advertising and branding of food products.

Children and young people were shown six different photographs of family, friends, teachers, taste, money and adverts. The photographs had text underneath explaining what was in the picture (eg 'money' on a photograph of bank notes) to ensure that all understood what the photos meant. They were then asked to rank the photographs according to their influence when children and young people choose what to eat, with the most influential factor at the top and the least influential factor at the bottom. Participants were asked to explain their ranking and whether

there are any other factors that influence their food choices. In situations where children were unable to agree on the order, multiple ranking orders were developed in the group.

Groups were shown a photograph of either an unhealthy meal (burger, chips, soft drink, crisps and popcorn) or a healthy meal (rye bread with cottage cheese, tomato, milk, yoghurt and an apple). The pictures were not introduced as healthy or unhealthy. Children and young people were asked to imagine someone their age who would choose to eat the meal for lunch. Questions they had to consider were:

- Is it a boy or a girl who would choose to eat that meal?
- What is their favourite TV programme and type of music?
- What hobbies or interests do they enjoy?
- What clothes would they wear?
- What kind of house do they live in?
- What is their family like?
- What do they like to do after school?
- What about friends?
- Where would they go on holiday?

Children and young people were asked to write down their suggestions on sticky notes, which were then stuck on a flip chat.

At the end of sessions the children and young people were thanked for taking part in the research and told that their classroom teacher would be sent a copy of the final report if they were interested in the findings.

The methods for nursery children differed in format, in order to engage younger children in an age-appropriate manner. Approximately four children aged 4 and 5 took part in each session.

- Children were asked to draw their favourite lunch and least favourite lunch at the nursery on plate-shaped paper. This activity encouraged younger children to discuss what food they like and don't like.

– From a selection of food toys, representing different food categories (eg fruit, vegetable, unhealthy/healthy main meals, puddings etc), children were asked to select three items each they would choose to have for lunch in the nursery. Having chosen their food items, children were asked if other children in the nursery would like that food too, and whether staff would allow them to eat it in the nursery. This activity focused on children's choices and how aware they are about food rules in nurseries and at home.

In addition to the focus groups, the research also used participant observation as a research method. In all but one of the participating schools, the researchers ate their lunch with the children and young people who had taken part in the focus groups. The purpose of this was mainly to give the researchers a greater understanding of the school context within children and young people operate. This extra involvement offered rich opportunities for the researchers to ask the children for clarification or additional information on the structure of their lunch break. However, it was also a way to confirm (or call into question) certain statements made by the children themselves or their teachers. For example, in all four primary schools it was claimed that fizzy drinks were banned, but from the visits it was noted that such bans were not strictly enforced, as many children had such drinks in their packed lunches. The children seemed to enjoy the special interest shown and many acted as excellent 'hosts' looking after the researchers, ensuring they had enough water or showing them where to put the dirty cutlery. Extensive field notes were kept of these visits.

Appendix 2

METHODOLOGY FOR THE NUTRITION ANALYSIS

Each school was identified and asked to take part in the research. The research focused on 4-5-year-olds in nurseries, 9-10-year-olds in primary school and 14-15-year olds in secondary schools. Those schools that agreed were a nursery in a deprived area, an inner city primary school and a suburban secondary school all located in London.

The nutritionist visited each school during the school lunch hour. Photographic records were taken of the food choices and promotions. Photographs of children's lunches were taken once they had sat down to eat. This ensured their food choices were not influenced by observation. Parents were also not informed which day the visit would take place to ensure that lunchboxes contents were not altered from the usual[4].

The school meals and packed lunches of two boys and two girls were randomly selected for analysis in each school. For nutrition analysis, photographic records were taken of each meal and lunchbox. Written records were also taken of lunch box meals including sandwich fillings. Duplicate foods and products were bought to estimate portion sizes. Comparable portions of school foods chosen were photographed and weighted to provide an accurate estimation of portion sizes.

Nutritional analysis was carried out with Dietplan6 which utilises the McCance and Widdowson composition of foods database. The package also enables comparison with the Caroline Walker Trust (Caroline Walker Trust) Nutritional Guidelines for School Meals (Sharp, 1992).

Average nutritional values were calculated from each of the four school meals and four lunchboxes.

Each child or young person's meal portions were compared to photos of weighed portions of food and estimated. Data was then entered into the nutritional analysis package for comparison with the Caroline Walker Trust guidelines for school meals. The meals and lunchboxes were also compared with the Food Standard Agency's recent guidelines for maximum salt intakes for children.

4 The parents of children who took part in this research had all given written consent prior to the research being carried out.

School meals were also analysed for compliance with the government's compulsory national nutritional standards for school meals (Food Standards Agency, 2003).

Interviews were conducted with catering staff and a member of teaching staff regarding cooking methods and recipes, food provision, food promotions and healthy eating policies.

Healthy and unhealthy food and drink options were recorded.

Appendix 3

FINDINGS FROM THE NUTRITIONAL ANALYSIS

Nursery school

The estimated average nutritional values are detailed in Table 1 below. Values which are in bold do not meet the Caroline Walker Trust recommended level (by at least 10 per cent). The Caroline Walker Trust guidelines are included in the table text.

Table 1: Comparison of average nutritional values of nursery school meals to Caroline Walker Trust recommended school meal guidelines for 4-6-year-olds (mixed)

Meal	Nursery average	Caroline Walker Trust
Energy kcal MAX: 30 per cent of estimated average requirement (EAR)	**709 kcal**	490 kcal
Macronutrients		
Fat g not more than 35 per cent of food energy (as there is no absolute requirement for sugars or fats (except essential fatty acids) these values represent a maximum	**29.8 g**	< 19.0 g
Saturated fatty acids g (not more than 11 per cent of food energy)	**11.75 g**	< 6.0 g
Carbohydrate (CHO) g (not less than 50 per cent of food energy)	85.45 g	> 65.3 g
Non milk extrinsic sugars (NMES) g (not more than 11 per cent of food energy)	**39.5 g**	< 14.3 g
Fibre (NSP) g minimum (not less than 30 per cent calculated reference value)	4.4 g	> 3.9 g
Protein g (not less than 30 per cent of calculated reference value)	30.2 g	> 5.9 g
Micronutrients		
Iron mg (not less than 40 per cent RNI)	3.0 mg	> 2.4 mg
Calcium mg (not less than 35 per cent of RNI)	167 mg	> 158 mg
Vitamin A mg (including retinol equivalents) (not less than 30 per cent of RNI)	**112 µg**	> 150 µg
Folate mg (not less than 40 per cent of RNI)	49 µg	> 40 µg
Vitamin C mg (not less than 35 per cent of RNI)	**8 mg**	> 11 mg

Table 2: Sodium and salt content compared to one-third of maximum recommended salt intake for 4-6-year-olds

	School meal average	1/3 maximum recommended daily intake
Sodium content	**0.63g**	< 0.39 g
Estimated salt content	**1.60g**	< 1.00 g

Primary School

Table 3: Comparison of average nutritional values of school meals to Caroline Walker Trust recommended school meal guidelines for 7-10-year-olds (mixed)

Meal	School meal average	Lunch box average	Caroline Walker Trust guidelines
Energy kcal MAX: 30 per cent of estimated average requirement (EAR)	652 kcal	534 kcal	557 kcal
Macronutrient content			
Fat g not more than 35 per cent of food energy (as there is no absolute requirement for sugars or fats (except essential fatty acids) these values represent a maximum)	**31 g**	19.5 g	<21.7 g
Saturated fatty acids g (not more than 11 per cent of food energy)	**7.7 g**	**7.7 g**	<6.8 g
CHO g (not less than 50 per cent of food energy)	**58.2 g**	75.2 g	>74.3 g
NME sugars g (not more than 11 per cent of food energy)	16.5 g	15.2 g	<16.3 g
NSP g (not less than 30 per cent calculated reference value)	**2.6 g**	**2.9 g**	< 4.5 g
Protein g (not less than 30 per cent of calculated reference value)	38 g	19.3 g	> 8.5 g
Micronutrient content			
Iron mg (not less than 40 per cent RNI)	**1.96 mg**	**2.1 mg**	> 3.5 mg
Calcium mg (not less than 35 per cent of RNI)	**158 mg**	**128 mg**	>193 mg
Vitamin A mg (retinol equivalents) (not less than 30 per cent of RNI)	**122 µg**	**41 µg**	>150 µg
Folate mg (not less than 40 per cent of RNI)	**39.3 µg**	**36 µg**	> 60 µg
Vitamin C mg (not less than 35 per cent of RNI)	15.5 mg	**3.3 mg**	> 11 mg

Table 4: Comparison of sodium/salt content of meals and lunchboxes with one-third of government-recommended daily intakes for 7-10 year olds

Sodium and salt content	School meal average	Lunch box average	1/3 Max Daily rec intake
Sodium	0.78 g	**0.95 g**	0.80 g
Salt	2.00 g	**2.37 g**	2.00 g

Secondary school

Table 5: Comparison of average nutritional values of school meals to Caroline Walker Trust recommended school meal guidelines for 14-18-year-olds (mixed)

Meal	School meal average	Lunch box average	Caroline Walker Trust guidelines
Energy kcal MAX: 30 per cent of estimated energy requirement (EAR)	604 kcal	561 kcal	682 kcal
Macronutrient values			
Fat g (not more than 35% of food energy (as there no absolute requirement for sugars or fats (except essential fatty acids) these values represent a maximum)	19.1 g	24.6 g	< 26.5 g
Saturated fatty acids g (not more than 11 per cent of food energy)	8.3 g	8.3 g	< 8.3 g
CHO g (not less than 50 per cent of food energy)	95 g	**76.3 g**	> 90.9 g
NME sugars g (not more than 11 per cent of food energy)	**27 g**	19.2 g	< 18.0 g
NSP g minimum (not less than 30 per cent calculated reference value)	**3.9 g**	**3.2 g**	> 5.5 g
Protein g (not less than 30 per cent of calculated reference value)	19.3 g	13.6 g	> 14.1 g
Micronutrient values			
Iron mg (not less than 40 per cent RNI)	**3.1 mg**	**2.2 mg**	>5.9 mg
Calcium mg (not less than 35 per cent of RNI)	**133.3 mg**	**118 mg**	>350 mg
Vitamin A mg (retinol equivalents) (not less than 30 per cent of RNI)	**22 µg**	**71 µg**	>189 µg
Folate mg (not less than 40 per cent of RNI)	**29 µg**	**51 µg**	>80 µg
Vitamin C mg (not less than 35 per cent of RNI)	20 mg	45 mg	>13 mg

Table 6: Sodium and salt content compared to one-third of maximum recommended sodium content for 15-year-olds

	School meal average	School lunchbox average	1/3 maximum recommended daily intake
Sodium content	0.60 g	**0.95 g**	< 0.80 g
Estimated salt content	1.53 g	**2.42 g**	< 2.00 g

Appendix 4

FINDINGS FROM THE LUNCH QUESTIONNAIRE

Lunch questionnaires were completed by a total of 145 children and young people in the participating primary and secondary schools. Children were asked to either draw or write what they had for lunch at school today or the previous day if the session took place in the morning. Most drawings were accompanied by written explanation of what they had for lunch. Children and young people who had packed lunches were generally very detailed in their description of their lunch, highlighting all the various items in their lunch box. Those who had school meals tended only to mention their main meal, with few clarifying what they had for pudding or to drink.

School meals: 80 children and young people had school dinners (overall 55 per cent of our sample). There is very little difference between the number of primary (60 per cent) and secondary (57 per cent) children having school meals.

36 per cent of children who ate school meals had **chips**. When waffles, processed potato shapes, wedges and roast potatoes are included in the chips category, this number increases to 58 per cent. No packed lunches included chips.

In terms of **meat dishes**, children had a mixture of chicken drumsticks, curry, meatballs and pizza. Only a few said they had burgers, hotdogs and fish.

46 per cent of children and young people who ate school dinners mentioned having **vegetables** (excluding potatoes). The most common vegetables named were carrots, beans, peas and coleslaw. Of those who had vegetables 19 per cent (seven children) mentioned having more than one type of vegetable.

It was observed that **puddings** were consumed by the majority of primary schoolchildren – although not all mentioned it in the lunch questionnaire. Puddings included cake and custard, cornflake/caramel cake and rice pudding. Some of the puddings on the day of the research were extremely sweet and only one was fruit-based.

Drinks – primary schoolchildren generally had the option of drinking water, squash or milk. Although many primary schoolchildren did not mention having a drink at lunch time, it was observed during the visits that

drinks were easily available, either at the food counter or on the tables. Secondary schoolchildren purchasing school meals tended to prefer fizzy drinks, such as Coca Cola, Fanta and Panda Pop, but were also more likely to mention having bottled water with their lunch.

Packed lunches: 56 children and young people had packed lunches (overall 39 per cent of the sample). There is very little difference between the number of primary (40 per cent) and secondary (43 per cent) children having packed lunches.

Of the 56 children and young people who brought packed lunches from home, 54 (96 per cent) had a **sandwich**. The remaining two students brought crackers instead of a sandwich. Favourite fillings included chicken, ham and cheese. Only three mentioned having brown or wholemeal bread. The remaining sandwiches were presumably made from white bread.

55 per cent of children and young people who brought packed lunches said that they had **crisps** in their lunch box. Only a few of those who ate school dinners mentioned having crisps, and all of those attended secondary schools.

Five students (9 per cent) mentioned having **salad** (tomato, cucumber or salad) in their sandwich. Only one child mentioned having vegetables (raw carrots) in the lunch box.

18 per cent (10 children) said they had a piece of **fruit** in their lunch box, with the majority having an apple. Looking at both packed lunches and school meals only 12 per cent of children and young people said they had fruit with their lunch.

27 per cent of 'packed lunchers' had a **chocolate bar** in their lunch box, while 23 per cent had cake, biscuits or cookies. 16 per cent had more than one 'unhealthy' item (eg crisps, chocolate bar and a cake) in their lunch box, with some having up to four or five unhealthy items.

In terms of **drinks** consumed as part of a packed lunch, the most common mentioned by the 10-year-olds were cartoons of Ribena and fruit juices, although some primary schoolchildren claimed to have fizzy drinks despite school policies prohibiting such products. Among the young people fizzy drinks, fruit shoots and water were the most common drinks.

Other items that could be found in primary schoolchildren's lunch boxes included yoghurt (7 per cent), dunkers, cheese strings, cheese dippers and crackers. These items were not mentioned by any of the teenagers.

DISCUSSION

Overall children and young people were not unhappy with their lunch, with only 7 per cent (nine children) saying that their lunch was bad. Primary schoolchildren especially rated their lunch as good (72 per cent), whether they had school meals or packed lunches. Many secondary schoolchildren complained in the interviews about their school canteen and this was reflected in how they rated their lunch, with only 27 per cent saying that they lunch were good and the majority (62 per cent) claiming it was okay.

Fruit and vegetables play a minor part in children and young peoples' lunches, especially for children who bring packed lunches. Crisps, chocolate bars and cakes on the other hand were common features, to the extent that children are three times more likely to have a packet of crisps in their lunch box than a piece of fruit. This is particularly worrying as we only asked about food eaten at lunch time, and from the interviews we got the sense that snacking of sweets, crisps and chocolate also took place in the morning and afternoon breaks.

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"Depends who you hang round with though. Cos like say you hang round with those who smoke and stuff, if like, you eat a banana they're gonna laugh at you cos you smoke and then you eat healthy foods it's not gonna work. And then if you hang round with people who are quiet and stuff, they're not gonna say anything"

"I usually get a sandwich because everything else is all greasy and awful"

"I don't get the [canteen] burgers because their burgers are not good quality, I get sandwiches, ok their ham might not be the best quality but it is alright"

"... sometimes there is things that I really like on the menu but sometimes I don't eat at all. I just take the thing and don't eat it"

"In the morning when you come in from outside you might be very hungry cos you might not have had something to eat in the morning cos you were rushing out 'and you're just thinking what am I am going to have today? Am I going to have this or am I going to have that and you just keep on thinking about it. And finally you can see it"

"A lot of people on our table are seating and eating their chips and they look like that and you feel they say 'Oh you've got a salad'"

"Right I'm laughing cos everyone has little cartons [of chips] right and one girl comes out with this plate with a big fish and a proper knife and fork. Looking like a teacher or something"

"I don't care about what the teachers say or whether it's healthy or not"

"Friends influence you because you are with them the whole day, ...more than with your family"

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