



R&D REPORT

NO. 267

**Adolescent food choices
and preferences: results
of UK focus groups**

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Campden BRI

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Adolescent food choices and preferences: results of UK focus groups

C.C. Gilbert

2008

Funded as part of the EU project HELENA

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EXECUTIVE SUMMARY

As part of an EU-funded project to determine issues relating to food choice among adolescents, 10 focus group discussions were undertaken in Birmingham, Manchester and Bristol.

Five male and five female groups were recruited within the age ranges of 13-14 and 15-16 years. A total of 71 adolescents, 34 males and 37 females, were recruited. The groups followed a detailed discussion guide covering a wide range of aspects including eating habits, factors influencing food choices, healthy lifestyle and sources of information on healthy eating. The final part of the discussion involved the testing of concept ideas relating to new healthy products.

Most of the adolescents reported eating three meals a day with snacks in between.

The majority of respondents said they ate breakfast everyday. Reasons for not eating breakfast included lack of time and not feeling hungry. Weekday breakfast usually consisted of cereal and/or toast, although cereal bars, yoghurt and fruit were also mentioned, while weekend breakfasts were usually more substantial, such as bacon, eggs and sausages.

Sandwiches were the most common item for weekday lunch. This was usually accompanied by a bag of crisps and/or a snack bar, and sometimes by a piece of fruit. Most adolescents ate lunch, although a few did report skipping lunch, or to only have crisps or a chocolate bar. School dinners were available but packed lunches were more common, often supplemented by food bought in nearby shops. Chips in particular were a popular item for purchase. Some respondents mentioned that school meals are becoming more 'healthy' and this tended to be accepted with resignation.

Pizza and pasta were very popular evening meals, as were jacket potatoes, meat & vegetables and sausage & mash. Convenience foods were chosen when the adolescents had to prepare their own dinner. Takeaways were a popular meal choice at the weekends, as was the more traditional 'Sunday roast'.

Snacking was most predominant after school, and more frequent at the weekend. Hunger was one of the main reasons for snacking, but boredom may also play a role. The most popular snacks were crisps, chocolate, sweets, fruit, biscuits and cereal bars. The boys also mentioned more substantial snacks such as burgers, sausage rolls, toasties and pasta.

Factors that influence adolescent food choices were explored. The most important factor was found to be taste. Adolescents made it clear that they will not be forced to eat anything they don't like. Parents also exerted an important influence on food choice, especially at dinner, as parents were responsible for buying and cooking most of the food. Very few of the adolescents prepared their own meals on a regular basis, but on the occasion they did cook for themselves, 'ease of preparation' and 'readily available' were the most important influences on choice of foods.

'Health' was ranked fairly highly as an influence on food choices and was often associated with a particular meal occasion, usually breakfast or dinner. Unfortunately,

health was most often discussed in connection with parental influence rather than from personal convictions. Furthermore, for many adolescents the main issue of concern was not to stay healthy but to avoid being overweight.

Several barriers to healthy eating were identified, including the perception that healthy foods taste bad, are boring, don't fill you up, take too much effort to prepare and are too expensive. In addition, there appeared to be a lack of immediate concern about unhealthy eating habits or lifestyle, and difficulty putting healthy eating messages into practice.

Favourite foods included many Italian dishes such as spaghetti bolognese, lasagne and pizza, and more traditional foods including shepherds pie, fish and chips, meat, mashed potatoes, roast dinners, and mushy peas. Favourite snacks were also those most regularly consumed: crisps, chocolate, sweets, fruit and cereal bars.

Adolescents did list several foods that they tried to restrict in their diet, including fast food, chips, pizza, crisps and chocolate. Some of these foods were avoided because they were described as being addictive. Many foods were restricted not necessarily because they were bad for your health but instead because they might lead to 'being fat'.

The adolescents demonstrated a good understanding of the concept of healthy lifestyle, describing it as a balance of healthy eating and exercise. Other contributors to a healthy lifestyle included getting enough sleep, not smoking, not drinking, not taking drugs, not being too stressed, washing regularly and having a good social life. With only a couple of exceptions the adolescents in this survey all reported to be interested in healthy foods and living a healthy lifestyle, and many undertook some type of sporting activity. However, most respondents believed that they could do more towards living a healthier life.

During the discussions, the influence of the media on the adolescents' knowledge and perception of healthy eating became apparent. Popular programmes that were mentioned included Jamie Oliver's school dinners, 'Supersize me' and 'You are what you eat'. The adolescents demonstrated a healthy amount of scepticism to what they saw advertised on TV.

Sunday roast, Full English breakfast, fish and chips, bangers and mash, shepherds pie and tea and biscuits were all listed amongst many others as being 'traditional foods' in Britain. In addition, specific brands including Cadbury's chocolate and Lea and Perrin's Worcestershire sauce were mentioned in the Birmingham region, possibly due to the fact that the factory sites were fairly local.

Finally, several concepts for new healthy products were explored at the end of the group discussions.

The three meat concepts were 'traditional meat products with nutritional characteristics adapted to a healthy and modern way of eating', 'fat free (1% fat) hamburger' and 'cold meats with intensive flavour and odour enriched with fish protein and other natural ingredients'. The fat free hamburger was the clear favourite provided it could be achieved and still taste good.

The three vitamin-enriched concepts were a 'chewable multivitamin mineral tablet', a 'vitamin mineral tablet for fizzy drink' and a healthy snack bar. The healthy snack bar was the most popular idea although the idea of a chewable vitamin tablet was also deemed acceptable as long as there were flavours to choose from. Furthermore, it was clear from these discussions that information backed up by science was more likely to be perceived as true.

The final set of 'concepts' explored properties associated with cereal-based snacks. These properties fell into the following three concept categories: 'good for your health', 'good for your looks' and 'good ingredients'. Overall, 'good for your health' was seen to be the most important, where the most important properties were energy boost, slimming and feeling full up. The second most important concept, although opinions were divided, was 'good for your looks', where the top three properties were slimming, less spots and larger muscles. The concept that came in last was 'good ingredients', where the top three properties were low fat, vitamins and low GI (this last property had to be explained at the start of the discussions).

Low fat was an important benefit of healthy foods and the idea of a low fat product, as long as it tasted good, was a well accepted concept among both sexes. Lower fat foods were mentioned in several contexts throughout the discussions in relation to: preventing being over weight; the belief that fatty foods are not good for you; and the desire for clearer complexions.

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1 INTRODUCTION

1.1 Background: The HELENA Project

Links between diet and health have long been established within the adult population. Increasing rates of obesity and related health issues in younger people have prompted a need for a better understanding of food habits of adolescents. In their ‘European Charter on counteracting obesity’, the World Health Organization reports that obesity prevalence in Europe has tripled in the last two decades. Children and adolescents are particularly at risk; prevalence of childhood obesity has seen a steady rate of annual increase and is up to ten times higher than it was in 1970 (WHO, 2006). The rise in obesity among children and adolescents is especially alarming, as overweight young people have a 50% chance of becoming overweight adults (Royal College of Physicians, 2004).

The European Commission has a vested interest in the area of nutrition and health, and is funding many projects in this area including the ‘*Healthy Lifestyle in Europe by Nutrition in Adolescence*’ (HELENA) project. Adolescence is an important period to consider in terms of obesity research as many healthy (or unhealthy) life-long habits begin there, and many non-communicable diseases, like obesity, are thought to have their origins in this period of life.

The HELENA study was a three-year project which started in May 2005, designed to assess the health status of adolescents in Europe and enhance their nutrition and lifestyle habits. Prior to this study, the health status of adolescents had not been evaluated at a European level using the same methodology in all countries. The HELENA project undertook this research with adolescents between the ages of 13 and 16, providing insight on adolescent dietary intake, body composition, metabolic profile, vitamin status, physical fitness, food choices and preferences, nutrition knowledge, and attitudes towards nutrition and physical activity. The study took place in 10 European countries and involved 26 partners from multiple sectors: 16 academic institutions, five food research institutes and five small- to medium- sized enterprises (SMEs).

The inclusion of five food research institutes and four food, drink and ingredient companies within the HELENA consortium highlights the importance placed on industry, as well as young consumers themselves, in understanding and addressing the issue of adolescent health and lifestyle. These nine partners were involved in the ‘behaviour and food’ study (HELENA-BEFO) which investigated adolescent food choices and preferences and developed ‘new healthy foods’ targeted to adolescents.

1.2 Adolescent food choices

Adolescents’ overall weight and health is influenced by what they like to eat, and therefore what they often choose to consume. Food choices and preferences of both adolescents and children have received much attention in recent years, with many studies investigating their eating habits, innate and learned food preferences, links between childhood nutrition and obesity, and the many biological, psychological, behavioural, social, environmental and societal factors that influence food choice (Gilbert and Durow, 2006).

Within the scope of the HELENA study, CCFRA led the work programme that investigated adolescent food choices and preferences. Consumer science provides an ideal set of tools for exploring and quantifying food choices and preferences amongst adolescents, and for investigating issues of concern regarding health and lifestyle. The approach used in the HELENA study involved both qualitative and quantitative cross-cultural consumer research. Research into adolescent food choices and preferences complements the clinical data also gathered from the adolescents and adds a ‘human element’ to the interpretation of results.

The first stage of the research into adolescent food choices and preferences involved focus groups in five European countries (Belgium, Hungary, Spain, Sweden and UK). Results presented in this report are those from the UK focus groups only. A pan-EU report will be available at a later date. Ideas generated from these focus groups will contribute to the development of a ‘food choices and preferences’ questionnaire and to the task of developing new healthy foods that appeal to adolescents.

1.3 Aim

The aim of this project was to investigate the determinants, preferences, attitudes and issues surrounding adolescent food choice and healthy eating.

1.4 Scope

This report summarises the findings of ten focus groups undertaken in Birmingham, Bristol and Manchester, investigating the food choice of adolescents. This work was undertaken by CCFRA within the scope of the EU-funded project HELENA.

2 MATERIALS AND METHODS

2.1 Field work and sample details

Focus groups were undertaken at purpose built studios in Birmingham, Bristol, and Manchester. In total, 10 focus groups took place between the 10th and 20th of October 2005, carried out by two trained and experienced moderators.

Professional recruiters, following precise instructions regarding recruitment criteria (see Appendix 1), undertook fieldwork in the three UK regions. Because of the sensitive nature of the topics under discussion, and in order to limit distractions due to boy/girl interactions, it was decided to divide the groups by both gender and age (ASTM E18, 2003). The resulting group types were male 13-14 years, male 15-16 years, female 13-14 years and female, 15-16 years. Groups consisting of seven adolescents were aimed for. A total of 71 adolescents, 34 males and 37 females, were recruited. Table 1 illustrates the group demographics.

Table 1. Discussion groups demographics

Group	Venue	Gender	Age (yrs)	No. in Group
Group 1	Manchester	Male	13-14	6
Group 2	Manchester	Male	15-16	6
Group 3	Manchester	Female	13-14	8
Group 4	Bristol	Female	15-16	7
Group 5	Birmingham	Male	13-14	8
Group 6	Birmingham	Male	15-16	7
Group 7	Birmingham	Female	13-14	6
Group 8	Birmingham	Female	15-16	8
Group 9	Bristol	Male	13-14	7
Group 10	Bristol	Female	15-16	8

2.2 Discussion guide

The focus groups were undertaken using a detailed discussion guide (see Appendix 2), developed by a team of researchers involved in the HELENA project (Ainia, Meurice, SIK, CCFRA Hungary and CCFRA). The same guide was used in all the focus groups undertaken in the UK and Europe as part of this project. Trained moderators used this guide to structure the discussion following a brief introduction session. The topics included eating habits at various meal occasions, favourite foods, restricted foods, perception of healthy foods, perception of traditional foods, healthy lifestyle and physical activity, sources of information and nutritional supplements. The focus groups were 1.5 to 2 hours in duration.

To help keep the adolescents motivated and focused, the discussion was interspersed with different types of topic-related activities as noted below.

Game: The adolescents were asked to bring and discuss an object they associated with 'health'. This instruction was deliberately vague, leaving the adolescent free to use their

imagination. The adolescents were instructed to bring this object to the group at the time of recruitment.

Ranking exercise: Participants were asked to rank (1st, 2nd, 3rd) the three most important factors influencing the foods they typically ate at breakfast, lunch and dinner, and for snacks. Participants individually ranked their top three influences separately for each meal occasion by selecting from the following list: My parents, Friends, School, Taste, Health, Readily available, Easy to prepare, Price, Habit, Country of origin, Brand, Adverts (TV/Press/Magazine/Radio), A diet I'm following, Medical reason and "Other (please write in)". The factors which held the most influence and reasons behind this were then discussed within the groups. This exercise encouraged adolescents to actively think about and sort the factors that influence their choices at various meal occasions, while also facilitating discussion surrounding the reasons behind their food choice behaviour.

Concept testing exercise: Included within the focus groups were a set of 'concept tests' to explore ideas for healthy new products aimed at the adolescent market. These concept tests were included specifically for the purpose of exploring ideas for new healthy products that were proposed by the four food and drink companies taking part in the HELENA study (Lantmännen, Serrano, Cederroth and PASA) and identifying popular concepts to develop into new products. A total of 9 concepts were presented, falling into 3 different categories: meat products, vitamin-enriched products ('miscellaneous') and cereal-based snacks. Following a detailed experimental design, each focus group was assigned one category and evaluated all 3 concepts within that category. Concept categories presented to groups in the UK and order of presentation are shown in Table 2.

Table 2. Concept categories presented to groups and order of presentation of concepts

Group	Gender	Age	UK City	Concept Category	Concept Presented 1 st	Concept Presented 2 nd	Concept Presented 3 rd
Group 1	Male	13-14	Manchester	Meat	ME - EX	ME - L	ME - H
Group 2	Male	15-16	Manchester	Cereal	CE - PB	CE - GL	CE - NB
Group 3	Female	13-14	Manchester	Misc	MIS - CW	MIS - BR	MIS - ZZ
Group 4	Female	15-16	Bristol	Meat	ME - H	ME - EX	ME - L
Group 5	Male	13-14	Birmingham	Cereal	CE - PB	CE - NB	CE - GL
Group 6	Male	15-16	Birmingham	Meat	ME - L	ME - H	ME - EX
Group 7	Female	13-14	Birmingham	Cereal	CE - GL	CE - PB	CE - NB
Group 8	Female	15-16	Birmingham	Misc	MIS - ZZ	MIS - CW	MIS - BR
Group 9	Male	13-14	Bristol	Misc	MIS - BR	MIS - ZZ	MIS - CW
Group 10	Female	15-16	Bristol	Cereal	CE - NB	CE - GL	CE - PB

Meat (ME)

EX -Enriched cold meat; H-Fat free hamburger; L-Traditional meat product adapted to a modern healthy way of eating

Cereal (CE)

PB-Good for health; GL-Good for looks; NB-Good ingredients

Miscellaneous (MIS)

BR-Healthy snack bar; ZZ-Vitamineral tablet for fizzy drink; CW-Chewable vitamin tablet

2.3 Qualitative research method

The research undertaken was qualitative in nature. Any trends and numerical data are reported to aid interpretation and should not be taken as being representative of the whole population.

3 RESULTS

3.1 Eating habits

3.1.1 Breakfast

The majority of respondents reported eating breakfast regularly during the week. Weekday breakfast is a light meal, typically of cereal or toast, although some of the male groups reported to have both cereal and toast. Cereal bars, fruit, or yoghurt and fruit, were also mentioned as breakfast choices, but only by a few of the respondents.

A few respondents claimed they ate nothing in the morning. For those who didn't usually eat breakfast, lack of time was the reason most often stated. Some respondents stated they were just not hungry, or said breakfast made them feel sick.

'Can't be bothered, haven't got the time' (M, 13-14, Manchester)

'I am not hungry first thing in the morning' (F, 15-16, Bristol)

The adolescent usually prepares his/her own breakfast, although there was a small indication that the males were more likely to have their breakfast prepared by a parent (usually the mother), compared to the females.

'Sometimes I do it myself and sometimes my mum does it' (M, 13-14, Bristol)

'While I have a shower my mum will make it for me for when I get downstairs' (M, 13-14, Manchester)

The majority of respondents reported eating breakfast at home, although they could buy breakfast at school if they wished (bacon rolls, cereal). However, breakfast is not a formal family occasion, with most respondents claiming to eat breakfast on their own, with a sibling, or 'on the go'.

'Usually eat it on the way to school if I have anything' (M, 13-14, Manchester)

For many of the respondents, breakfast at the weekend was different to that eaten during the week. Weekends usually involved a cooked or 'full English' breakfast, usually prepared by the parents.

'Normally changes on the weekend, egg and bacon cooked by my mum' (M, 13-14, Birmingham)

'Bacon. A fry up. An English breakfast' (F, 15-16, Birmingham)

However, for some adolescents, either the Saturday and/or Sunday breakfast was missed, sometimes due to sleeping in late, highlighting their irregular eating patterns.

'I don't wake up in time for breakfast on the weekend' (M, 13-14, Manchester)

'I have sausage on Saturday and nothing on Sunday' (F, 15-16, Birmingham)

3.1.2 Lunch

The majority of respondents reported eating lunch every day. Sandwiches were the most common food eaten for weekday lunch, either from home or bought at school. Sandwiches brought from home were usually prepared by parents (mainly mothers).

'Yes I will get light grain and stuff like pepperoni put in by my mum'. (M, 13-14, Birmingham)

'Sometimes my mum gives me sandwiches or I get them at the shop' (F, 15-16, Bristol)

Sandwiches were often accompanied by a bag of crisps and a snack bar of some kind. Some respondents also reported having a piece of fruit with their lunch.

'Sandwiches and crisps and bar of chocolate' (F, 15-16, Birmingham)

'A sandwich and a cereal bar and an apple or something' (F, 15-16, Birmingham)

'And then I get ham rolls and cheese, grapes, frosty bar and a Cadbury's bar' (M, 13-14, Birmingham)

Although many of the respondents did claim to eat lunch, a few did admit to sometimes not having lunch or not consuming much at lunchtime.

'Sometimes I might not have any lunch' (M, 13-14, Birmingham)

'I only take crisps' (F, 13-14, Birmingham)

'I have a chocolate bar or something' (F, 15-16, Bristol)

School dinners were available but the majority of the respondents were used to a regime of packed lunches sometimes reinforced by food bought in nearby shops.

'I get £2 and it varies whatever is there' (M, 13-14, Birmingham)

'I buy chocolate and stuff' (F, 15-16, Bristol)

Chips (French fries) were a popular choice to accompany lunches from school or home, especially among the older female groups. Some claimed this was due to limited choice at the school canteen.

'Chips cheese and gravy' (F, 15-16, Birmingham)

'Sandwiches, chips' (F, 15-16, Bristol)

Others in this group did report having a better selection, although some reported that the healthy options just took too long because of queues. There were a few comments about how school meals were changing and becoming healthier, i.e. less burgers and more salad, and this development tended to be accepted with resignation.

'I get something from school hot pasta with sauce' (F, 13-14, Birmingham)

'And we have got jacket potatoes ...but it takes all lunch time' (F, 15-16, Birmingham)

'I usually get a baked potato or a panini' (F, 13-14, Manchester)

'Sometimes the queues are out of the door and prices have gone up since the healthy things came in' (M, 13-14, Bristol)

Although not frequently, the adolescents (males in particular) reported going out of school to get 'fast food' from local restaurants or fish and chip shops.

'Sometimes we drive into town and go to McDonald's but it is not every day' (M, 15-16, Manchester)

'Egg ham or cheese sandwich or go to the chip shop' (M, 15-16, Birmingham)

'The chip shop has a massive queue' (M, 15-16, Birmingham)

3.1.3 Dinner

Parental influence became evident when it came to the **evening meal**. Dinner for the majority consisted of a variety of meals made by parents (mainly mothers). Pasta, in particular spaghetti bolognese, was a popular evening meal. Although parents were aware what their children would and would not eat, in the main it appears that parents prepared the evening meal with only limited reference to specific requests from their children.

'I just have what my mum cooks' (F, 15-16, Bristol)

'I usually have something like sausages and wedges or mashed potato with cheese in it'. (F, 13-14, Birmingham)

'My mum makes things like beans on toast' (F, 13-14, Manchester)

'Pizza, jacket potato, lasagne, spaghetti' (M, 13-14, Bristol)

'I have anything, I really get into a roast, but my mum starts doing a load of Italian stuff' (M, 13-14, Birmingham)

'If I don't want to eat what my mum has cooked I get it myself' (F, 15-16, Bristol)

'She says, you can have this, this or this, and I get to choose' (M, 13-14, Manchester)

It appears that time constraints can often influence the choice of evening meal. More convenient, often frozen, foods were reported to be eaten on occasion, especially if respondents were going out in the evening.

'Maybe something out of the freezer, maybe something homemade like spaghetti bolognese' (M, 15-16, Birmingham)

'Depends if we are going out we have something from the freezer otherwise it is vegetables and stuff' (F, 13-14, Birmingham)

'Just something out of the freezer' (M, 13-14, Manchester)

Simpler convenience foods such as pizza, microwave chips or pot noodles were chosen if parents did not prepare meals. Although there were a few exceptions, none of the respondents reported to be particularly interested in cooking meals from scratch.

Takeaways were only eaten occasionally on weekdays.

'Either a McDonald's or whatever mum cooks' (F, 13-14, Birmingham)

'Once a month, not all that often' (M, 13-14, Manchester)

However, takeaways (e.g. Chinese, Indian, fish and chips, pizza), were popular meal choices at the weekends, especially Saturday evening.

'We usually vote – I can choose Chinese or Indian or fish and chips' (F, 13-14, Manchester)

'Pizza or Chinese, things like that' (M, 13-14, Bristol)

In general, the main meal at the weekends was often different to those eaten during the week. In particular, most respondents claimed to have a traditional Sunday roast dinner. Furthermore this is one of the occasions where respondents said they sat together and ate dinner as a family, suggesting that eating together as a family is no longer a daily ritual.

'On Saturday it is a curry because that is just habit but on Sunday, habit again, Sunday dinners' (M, 15-16, Manchester)

'If it's a Sunday dinner, all the family is round so we eat at the table' (M, 15-16, Manchester)

'I have Sunday dinner on a Sunday or maybe some kind of new food my mum wants to try out on us on Saturday' (M, 15-16, Birmingham)

3.1.4 Snacks

A variety of snacks were eaten by all the respondents (see Appendix 3 for full list).

The most popular snack foods common to all groups were crisps and cookies/biscuits, and these were reported to be eaten on a regular basis. With the exception of one younger female group, fruit was also one of the most commonly mentioned snack foods. Chocolate and chocolate bars were also mentioned in nearly all of the groups, as were cereal bars, yoghurts and sweets. Individual cakes in some form, including chocolate muffins, Jaffa cakes and donuts were also popular snacks.

Although not exclusively mentioned by the male groups, males were much more likely to list 'substantial snacks' such as sandwiches, toasties, sausage rolls, bacon baps and beefburgers. Some even listed 'bowl of pasta' and 'full English breakfast' as snacks!

Vegetables were not readily thought of as snack foods. Only one group (older females) listed vegetables ('carrots' in this case) as a snack. This same group was also the only one to list olives as a snack.

Snacking is most predominant after school, especially for the boys, when many of the respondents claimed to be at their hungriest. Some respondents reported to be constantly hungry and so snacked often.

'Usually when I get back from college I eat a bowl of cereal and get something like a Tracker bar and then go to the gym' (M, 15-16, Manchester)

'Sometimes I will have crisps when I come home' (M, 13-14, Manchester)

'Sandwich when I get in, bag of crisps' (M, 15-16, Manchester)

Snacking at weekends was reported to be more frequent by many of the respondents, partly because they had more time to eat, and partly out of boredom.

'You have got more time at the weekend to eat' (F, 15-16, Bristol)

'When you get more time you get more hungry at the weekends usually – you think about it more I guess' (F, 15-16, Bristol)

However, one group of younger males claimed not to be hungrier at the weekends.

'I don't really eat anything at weekends, snacks, because I don't seem to be as hungry' (M, 13-14, Manchester)

Very few respondents reported not to snack in between meals.

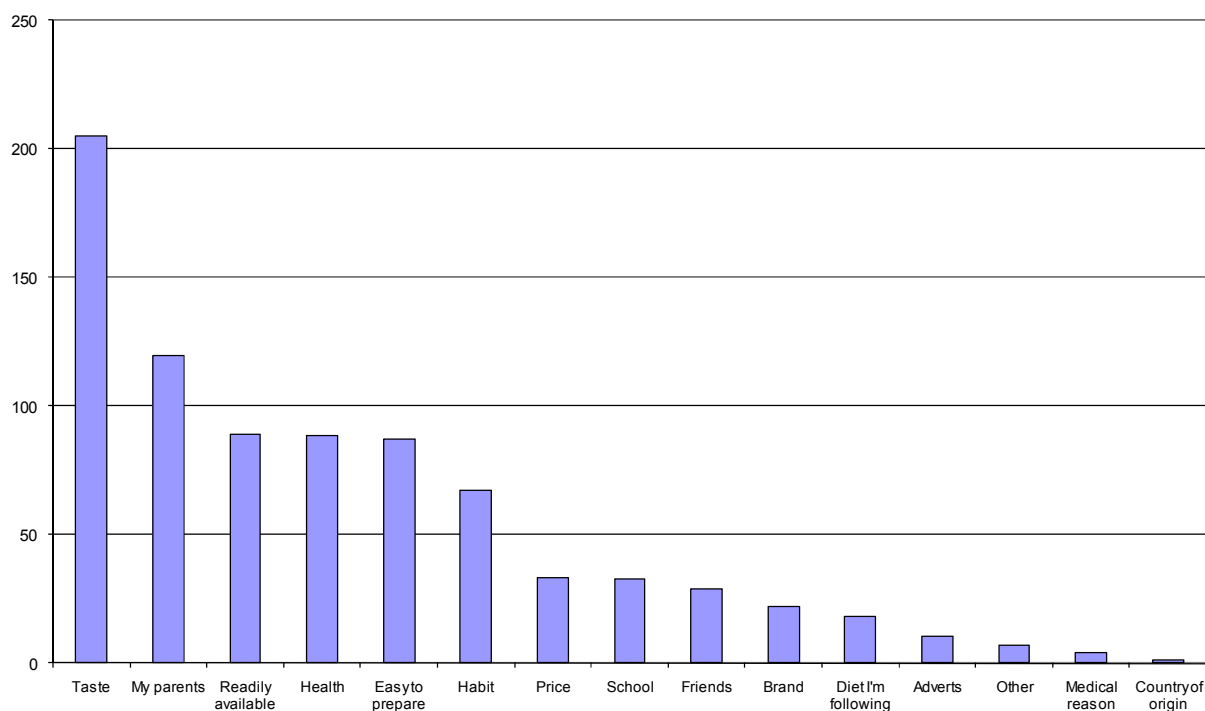
3.2 Influences on food choice

All members of the groups were asked to individually choose the three most important factors influencing foods typically eaten at breakfast, lunch, dinner and for snacks, and rank them (1st, 2nd, 3rd) in order from a given list, as described in Section 2.2.

3.2.1 Most important factors influencing food choice

Figure 1 shows the total number of top three selections for each factor, across all adolescents in the groups and across all meal occasions (see Appendix 4 for details). This provides an overview of the most important factors influencing food choices.

Figure 1. Most important influences on food choice across all meal occasions



The two most important influences on adolescent food choices, ranked in the top three across all meal occasions, were 'Taste' and 'My Parents'. Also ranked highly, and with equal influence, were 'Readily available', 'Health', and 'Easy to prepare'. Habit was ranked 6th overall. Results and discussion surrounding all of the factors will now be presented individually. How each factor impacts on different meal occasions will be discussed in Section 3.2.2.

Taste

The most common factor in the top three for all meal occasions was 'taste', with a total of 205 rankings for all meals collectively. Of these, 95 were first choice rankings, 65 were second choice and 45 were third choice.

Having food taste 'nice' was regarded as a fundamental aspect influencing food choice and was mentioned by most of the adolescents as one of the top three factors for one or more meal occasions. It was generally reported that food would only be eaten if it tasted good and was a food that was liked.

'If you don't like it you are not going to eat it' (F, 13-14, Birmingham)

'Well I wouldn't want to eat anything that tasted bad' (M, 13-14, Birmingham)

'Because you have to like it to eat it' (F, 15-16, Birmingham)

'You are not going to eat anything that tastes rank, are you?' (M, 13-14, Bristol)

My parents

The second most important factor overall was 'My parents'. Parents were a common influence in adolescents' food choices, often due to the fact that much of their food was bought and prepared by their parents. This suggests that parents still have an important role to play in shaping and influencing their child's diet, even after the child enters adolescence.

'Parents because if its sandwiches I get them made' (M, 13-14, Birmingham)

'Parents because they buy and they cook it' (M, 15-16, Birmingham)

'My parents because they make it and I have no choice or they give me the money' (F, 15-16, Birmingham)

'It depends what they buy for a snack doesn't it' (M, 13-14, Bristol)

Readily available and easy to prepare

'Readily available', with a total of 89 selections, was a common choice and reported by respondents as an important influence mainly in relation to speed and convenience.

'Just easy to get' (M, 13-14, Birmingham)

'In the morning when you are in a rush you need something' (F, 13-14, Birmingham)

'I have got to make it in the morning, so readily available is second' (M, 15-16, Birmingham)

Foods that were 'easy to prepare' were most likely to be chosen on occasions when parents were not involved with meal preparation or for speed of preparation in the morning. It was again clear that few of the adolescents reported a propensity towards enjoying cooking for themselves.

'Easiest thing to make' (M, 13-14, Manchester)

'Mine is easy to prepare because I can't be bothered to put anything hot on' (M, 13-14, Birmingham)

'One is easy to prepare because my mum isn't home and I have to cook it' (F, 13-14, Birmingham)

'Easy to prepare if I have got to do it myself like pizza or something to put in microwave or oven' (F, 15-16, Birmingham)

It is clear that time and convenience both play an important role in adolescent food choice, resulting in the need for healthy foods that are readily available and easy to prepare.

Health

Health was the fourth highest ranked overall, and scored similarly to both 'readily available' and 'easy to prepare' (89 for readily available, 88.5¹ for health, and 87 for easy to prepare). All three factors, however, were more likely to be a second or third choice than a first choice.

Health was selected as an important influence on food choice for a variety of reasons. Some respondents mentioned they felt they needed to eat healthily because they were involved in some sporting activity.

'Health second 'cos I usually do sport after school' (F, 15-16, Birmingham)

Others felt it was more important to eat healthily at a particular meal, especially breakfast and dinner.

'Health because it is important for breakfast' (M, 15-16, Birmingham)

'I choose to eat breakfast because it gives you energy for the rest of the day' (F, 15-16, Bristol)

'Because I don't really watch what I eat and I want to have a healthy dinner' (M, 15-16, Birmingham)

'The second is healthy, (dinner is) the healthiest meal I have' (F, 13-14, Birmingham)

A few respondents were influenced by their healthy eating parents.

'Well my mum has got really high blood pressure... she eats all healthy stuff... then we have to eat it too... I like eating healthy food' (F, 13-14, Birmingham)

'My parents cook healthy food' (M, 15-16, Birmingham)

A belief in the importance of eating healthily was reported by many, and was mentioned slightly more often by the females, and also more regularly by the older age groups.

'I don't really eat snacks but if I do it's got to be healthy' (F, 15-16, Birmingham)

'If you eat too much junk food it's like there's no energy and it's like you can't do anything' (F, 15-16, Birmingham)

'It could be something to do with age groups. A lot of people at this age now are starting to think more about what has gone into it than the kids who are running around eating M & Ms' (M, 15-16, Manchester)

Some of the males admitted that the reason why they selected this factor as an influence on their food choice was because they felt they ought to or they believed it was something important for when they were older.

¹ Factors ranked with equal importance were each assigned a score of 0.5.

'I suppose it's not (important) but I just put it down because I should' (M, 13-14, Birmingham)

Unfortunately, health was most often discussed in connection with parental influence. Although adolescents do regard health as an important consideration in terms of their food choices, this may not always be due to personal beliefs or convictions, which may limit the actual application of healthy eating in their everyday life. Furthermore, for many adolescents, the only health issue of concern to them was not becoming fat; 'health' as a more general concept was not of primary concern.

Finally, there was also a considerable amount of discussion about why health was not selected as an influencing factor. This will be discussed later in Section 3.6: 'Barriers to healthy eating'.

Habit

'Habit', which was sixth most important overall, was mainly chosen both because of the routine of eating breakfast, lunch or dinner as well as because some foods were eaten regularly out of habit.

'I put habit because I have breakfast every morning' (F, 13-14, Birmingham)

'Habit because you eat the same thing over and over again' (F, 15-16, Birmingham)

Price, School and Friends

Although not selected as often as the previous factors, 'price', 'school' and 'friends' did exert a small and almost equal influence on adolescent food choice. Price played a role on occasions when adolescents were purchasing their own meals.

'I go and buy it so it is important how much it costs. I don't want to spend money I haven't got' (M, 13-14, Birmingham)

'Price because you usually are buying a snack' (F, 15-16, Birmingham)

School and friends were especially relevant during the school week and therefore mostly impacted on the choice of lunch items.

'You are with friends at lunch time and if they have got something like chips you think, I will go and buy some' (F, 15-16, Bristol)

'Friends – I just eat what they eat (F, 13-14, Manchester)

'You want to get (what your friends have) don't you, like going along with the leader' (M, 13-14, Bristol)

Brands and Adverts

A small number of respondents, males in particular, did mention that brands and, to a lesser extent, adverts played a role in their food choice, especially for snacks. Those choosing brand as a factor related brand to the quality of the food and recognised those brands they liked and those they didn't.

'I don't like cheap things' (M, 15-16, Birmingham)

'Because you can have better quality, because it is a brand I know' (F, 13-14, Birmingham)

'If you don't see it being advertised on TV' (M, 13-14, Bristol)

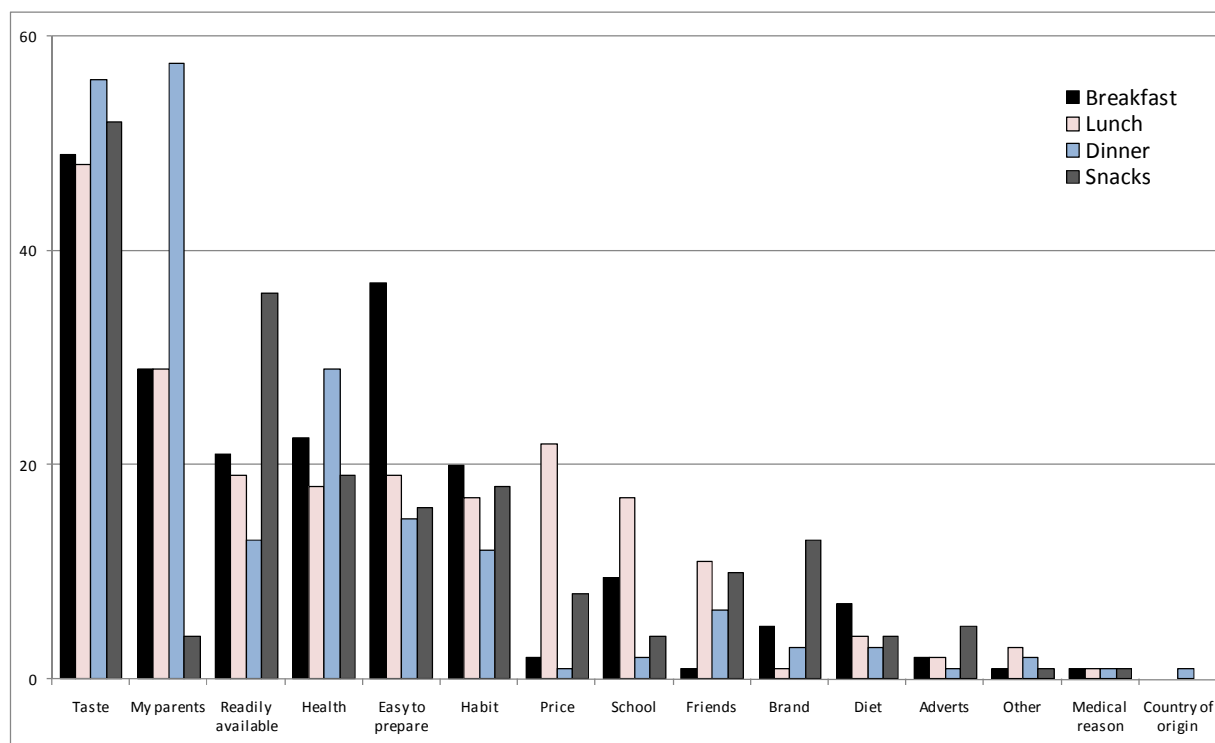
Diet I'm following, Medical reasons, Country of origin, and 'Other'

For most groups, for all meal occasions, 'diet I'm following', 'medical reasons', 'country of origin' and 'other' were not often stated as one of the top three factors influencing their food choice. However, one 15-16 female respondent did put 'medical reason' (due to diabetes) as first choice influencing snacks and breakfast (and second choice influencing lunch and dinner).

3.2.2 Differences between meal occasions

Figure 2 shows the same set of factors which were ranked (top three) for their influence on food choices, but broken down by meal occasion.

Figure 2. Total number of top three selections by meal occasion



Taste was the predominant factor, influencing all four meal occasions. It was the most selected factor at all meal occasions with the exception of dinner, where parents were deemed to be the most important factors influencing food choice.

Once taste was accounted for, different factors were found to impact different meal occasions.

Time and convenience played a large role at **breakfast**, with adolescents looking to foods that are easy to prepare and, to a lesser extent, readily available. Parents, health considerations and habit also influenced their breakfast food choices. Habit influenced breakfast more than any other meal occasion and included both the daily ritual of eating breakfast and the habitual choice of the same food and drinks at this meal.

Parents and price both had an influence on foods for **lunch**, reflecting parents' involvement in making packed lunches but also the adolescents' tendency to supplement these lunches with items bought at school or from local shops. Readily available, easy to prepare and health also had a slight influence. Although the influence of the school environment and friends were not often selected within the top three choices, their influence was predominant at lunch compared to other meal occasions.

Parents had the greatest influence at **dinner** followed by taste. In general, ‘my parents’ was chosen whenever the parents were responsible for making the meal, which accounted for the majority of dinners for these adolescents. Health was the third most important factor at dinner, probably as a result of the parents’ high level of involvement at this meal occasion.

In contrast to dinner, adolescents were mostly responsible for choosing their own snack foods and therefore parents were reported to have very little influence on adolescents’ choice of **snacks**.

‘You choose what you eat for snacks whereas your meal is usually prepared by parents’ (M, 15-16, Manchester)

Other than taste, ‘readily available’ was seen as the most important consideration surrounding choice of snack foods. This makes sense as the adolescents expressed that they are often hungry and snacks that are readily available provide a quick fix for this hunger in between meals. Health considerations, habit and having snacks that were easy to prepare also made a moderate impact on snack choices. Although brands and adverts did not rank highly in the list of influences on food choices, their influence was more relevant to the choice snack foods than to foods eaten at other meal occasions.

3.2.3 Demographic differences

Gender differences

Responses between boys and girls were fairly consistent overall. However, there were some observations worth noting in terms of a difference in emphasis for some of the factors.

Girls were more likely to select ‘habit’ than boys and this was true at all meal occasions. The girls also had a slightly higher tendency to select ‘friends’, especially at lunch.

The boys placed slightly higher importance on ‘taste’, and this at all meal occasions. The girls also placed importance on ‘taste’ but slightly more so at dinner. Although not a major influence overall, the boys were more likely to admit to being influenced by ‘brand’, especially when choosing snacks (20 out of the 22 selections for ‘brand’ were made by males). Both males and females agreed that ‘easy to prepare’ was important at breakfast; however, boys were more likely to place some importance on this at other meals as well.

Age differences

Of the 22 selections made for ‘brand’, 16 were made by the younger respondents (aged 13-14 years). Also, 9 out of 10 selections made for ‘adverts’ were made by the younger age group. This suggests that younger adolescents may be more susceptible to external influences than the older age group.

‘Habit’ was predominantly selected by the older age group (aged 15-16 years). This was also true for ‘diet’, although only 18 people selected this in total.

For the older age group, ‘health’ was selected more consistently across meal occasions compared to the younger adolescents, who mainly highlighted ‘health’ at dinner and breakfast.

‘Taste’ was an important influence at all meal occasion for all age groups. However, ‘taste’ was most important at lunch for the younger group and least important at lunch for the older group; ‘taste’ was most important at dinner for the older group.

City differences

‘Taste’ was the most important factor in all three cities. The majority of all selections for ‘habit’ were made in Bristol (31 out of 67 selections). ‘Diet’ was also predominantly selected in Bristol (16 of the 18 selections made), whereas only 11% of all the selections made for ‘school’ came from adolescents in Bristol. Slightly higher percentages of total selections made for ‘easy to prepare’, ‘health’ and ‘school’ were made in Manchester.

In Birmingham and Bristol, ‘taste’, followed by ‘parents’, were the two most important influences on food choice. However, in Manchester, ‘parents’ came fourth overall after ‘taste’, ‘health’ and ‘easy to prepare’.

3.3 Favourite foods

Respondents were asked what their favourite foods were and how often they ate them. A wide variety of foods were mentioned, including traditional home cooked dishes, takeaways and snack foods.

Favourite meals

Italian dishes, including spaghetti bolognese, lasagne and pizza, were very popular favourite foods, and eaten fairly regularly.

‘Pizza maybe once a week’ (F, 13-14, Birmingham)

More traditional foods including shepherds pie, fish and chips, meat, mashed potatoes, roast dinners, and mushy peas were also mentioned in most groups.

Takeaways, including Chinese, Indian and McDonald’s, were very popular, but tended to be restricted by parents or more of an occasional treat.

‘We hardly ever have takeaways, on special occasions’ (M, 14-15, Birmingham)

Favourite snacks

As discussed previously, favourite snacks (see Appendix 3) included crisps, chocolate, and sweets but could include fruit and cereal bars as well. In general, many of the snack foods mentioned were consumed on a regular basis.

‘Crisps I eat all the time’ (F, 13-14 Birmingham)

The adolescents do like eating fruit; however, given the choice they would go for something they deem to be ‘better’.

'Because if there is an option out of cakes and fruit you would go for the cakes because they are better' (M, 13-14, Bristol)

A number of respondents commented that favourite snacks at the weekend might be more substantial and could include sandwiches, bacon rolls or cakes, as the weekend was a time they either felt hungrier or had the time to enjoy them.

Some respondents reported liking lots of things but nothing as a particular favourite.

'I like loads, nothing is favourite' (M, 15-16, Birmingham)

'Whatever is in the house' (F, 15-16, Bristol)

3.4 Restricted foods

Respondents were asked if they restricted their intake of any particular foods which they enjoyed. Items that were often mentioned included fast food, takeaways, chocolate and crisps.

Some respondents described certain foods as being addictive in nature and as a result they often tried to restrict these foods.

'Pringles, they are addictiveI eat one and I have to have another, then I just carry on' (M, 14-15, Birmingham)

'I am a fiend for chocolate so I stopped eating it - I used to eat like 6 bars a day' (F, 15-16, Bristol)

'If you don't restrict yourself you just keep on eating it and you don't want to be fat' (F, 13-14, Manchester)

Other respondents, females in particular, restricted foods that were considered unhealthy or high in fat content, such as chips and fast food.

'McDonald's and chips from the chippy because they are all greasy' (F, 15-16, Birmingham)

'(Cheesecake) It's fatty' (F, 13-14, Birmingham)

'McDonald's...it is really unhealthy' (M, 13-14, Manchester)

'Pizza because it is fattening' (M, 13-14, Bristol)

The items that were restricted were often high in calories or fat. Despite this, many of the 'restricted foods' that were listed were not restricted because they are 'bad' for your health (e.g. cholesterol), but instead only because it might lead to 'being fat'. Interestingly, the males seemed just as likely to demonstrate this image consciousness as the females.

'You would get fat' (F, 13-14, Manchester)

'You would have a massive roll of fat' (M, 15-16, Manchester)

'It is mostly your self confidence, thinking, I don't look as good today because I have just eaten 35 chocolate bars today' (M, 15-16, Manchester)

'You would be fat if you had a cooked breakfast every morning' (F, 15-16, Bristol)

'If you have a balanced diet you feel better in yourself and you look better' (M, 15-16, Manchester)

Despite the worry of becoming fat from eating these types of foods, it was not felt that this actually exerted much influence on behaviour. This is because of the general belief that one can negate the effects of a bad diet through exercise. This belief appears to be especially predominant among the males.

'I don't really worry that much. If it is like - usually it is something reasonably healthy, but if not I probably wouldn't eat as much, but I am at the gym quite a lot anyway so I usually think, oh, it is not going to be that bad, I had better do 20 minutes of running in a bit or whatever' (M, 15-16, Manchester)

'If I didn't do as much exercise I wouldn't eat as much junk or anything, but I do quite a lot of exercise so I don't really care what I eat' (M, 13-14, Manchester)

Therefore, although it was recognised that 'too much' fatty or sugary foods was a bad thing, many adolescents felt that exercise could be used to compensate for this. Overall it did appear that the main motivation for having a healthy lifestyle was weight control/reduction. Issues such as high cholesterol and heart problems were almost irrelevant to this age group but looking good mattered a lot. However, a few respondents did recognise the importance of restricting certain foods in order to improve overall health.

'For me it is disease, I don't want to die young' (M, 15-16, Manchester)

'It is about getting healthy, less cholesterol' (M, 15-16, Manchester)

3.5 Perception of healthy foods

Respondents were asked what came to mind when they thought about healthy foods. A variety of foods were mentioned (See Appendix 5 for full list from each group).

All respondents had a conventional, almost adult, view of what would be considered healthy food. Overall, fresh fruits and vegetables, meat, and cereal-based products were generally reckoned to have the cleanest bill of health.

Fruit and vegetables were almost always the first foods to be mentioned, and these were mentioned in all groups. Meat was the only other food mentioned consistently in all groups as being healthy. However, meat was often mentioned with a caveat, for example 'white meat is better than red meat', or 'meat, depending on how it is cooked'. The importance of oily fish was recognised and fish in general was mentioned in all but two groups, although it is worth noting that fish was not often mentioned spontaneously.

Cereal-based products such as cereals, cereal bars and pasta were regarded as healthy. It appeared that cereal bars in general were thought of as healthy, whereas only some cereals (e.g. Special K) were regarded as such.

Dairy products, in some form, including milk, yoghurt, yoghurt drinks and cheese, were mentioned in all but the two older male groups. However, dairy foods caused some doubt. Milk and cheese had a split personality – it was ‘good for you’ (usually thanks to the calcium), but could also be high in fat. Yoghurt was believed to be ‘good for you’, even though few knew quite why, but equally there were suspicions about excess sugar in some varieties of yoghurt.

Other foods mentioned included salad, nuts, eggs, potatoes, and dried fruits. Half of the groups identified fruit juices and/or water in their list of healthy foods.

They recognised that some meals, such as a ‘full English breakfast’, were not all bad and could be made healthier by avoiding some of the components such as fried bread, by having scrambled rather than fried eggs, or by not eating fatty bacon.

Although not necessarily identified as such, most of the foods listed were ‘natural’ (unprocessed) or home made in nature (e.g. fruits, vegetables, dairy foods, meat, eggs, pasta, potatoes, water etc). There were some exceptions to this rule, e.g. ‘cereal bars’, ‘light mayo’, ‘non-alcoholic drinks’, and a couple of groups mentioned ‘Lucozade’ (an energy sports drink). Some groups also associated healthy food with something removed or reduced from a product, or with particular nutrients, rather than specific food types. These included probiotic yoghurt drinks, ‘low salt’, ‘fibre’, ‘calcium’, ‘carbohydrates’, ‘proteins’, ‘vitamins’, ‘no added sugar’, ‘no chemicals’ and ‘things with nothing added’.

Finally, many of the groups acknowledged that anything can be a healthy food:

‘Anything is healthy as long as you don’t eat too much of it’ (F, 15-16, Bristol)

‘Everything in moderation’ (M, 13-14, Manchester)

‘Balanced diet’ (F, 15-16, Birmingham)

All groups reported eating some of the foods they perceived as healthy on a regular basis depending on their individual tastes.

3.6 Barriers to healthy eating

While discussing health as an influence on food choice and the adolescents’ perception of healthy foods, several barriers to healthy eating came to light. The main barriers to healthy eating appeared to be that healthy foods don’t taste very good, but also that healthy eating was ‘boring’, and that healthy foods were more hassle to prepare. Hunger and the perception that healthy foods don’t fill you up as much as some less healthy options, were also mentioned. Adolescents mentioned they often feel very hungry and they are looking for something that will fill them up. The following gives examples of the various barriers to healthy eating that were identified.

Healthy foods taste bad

'Most healthy stuff (snacks) is just disgusting' (M, 13-14, Birmingham)

'Because most healthy things don't taste very nice' (F, 15-16, Bristol)

Healthy foods are boring

'There is a lot of sugar in them (cereals), except in the boring ones' (F, 15-16, Bristol)

'Salad is boring' (F, 15-16, Bristol)

Healthy foods are a hassle

'You have to cook healthy foods' (F, 13-14, Manchester)

Healthy foods don't fill you up

'Fruit isn't very effective when I get hungry – I eat chocolates and crisps or something' (F, 15-16, Birmingham)

'It doesn't fill you up as much as like biscuits - an apple wouldn't fill you up' (F, 13-14, Manchester)

'I don't think they (cereal bars) are very filling' (F, 15-16, Bristol)

Cost and value for money of healthy food

'What I don't understand about healthy foods is that, if they are meant to be healthier and better for you, why are they more expensive' (F, 13-14, Manchester)

'We used to have a canteen that sold cans of drink and they got rid of that and brought in a water machine but it is like 80p to buy the cans' (F, 13-14, Manchester)

'You see a Mars bar and that is 40 p and you see these Tracker bars and things and they are 40 p and you think, why bother because the Mars bar is twice as big and ten times as heavy so you just go for a Mars bar' (M, 15-16, Manchester)

Lack of immediate concern about unhealthy eating practices

'Well I think it is important now but I will address it more in the future' (M, 13-14, Birmingham)

'I know we should care (about health) but we don't' (M, 13-14, Birmingham)

'It is not something that you think of - you don't look in the fridge and go, oh, can't have that, it is not healthy. You don't think of it when you are thinking, I am starving, what can I get? It is the first thing that you grab' (F, 13-14, Manchester)

Misconceptions and difficulty putting knowledge into practice

'They never really explain – on TV it is like, have 5 fruit and veg a day, but it doesn't really say if you can have 5 grapes and that will be it' (F, 15-16, Bristol)

'Portion is a litre of fruit or vegetable - like apple juice, if you have a litre of that, that is a portion so 5 portions a day is quite a lot. If you have 5 apples, that is 5 portions. They take apple juice and water it down and stuff' (M, 15-16, Manchester)

3.7 Misconceptions surrounding food and healthy eating

On the surface, adolescents do seem to have a fairly mature theoretical knowledge regarding healthy eating, although there was some evidence, as shown above, that they may have some difficulty putting this knowledge into practice, especially with respect to portion sizes. Apart from having little difficulty in producing a list of healthy foods, many were able to finesse this list with some quite well informed qualifications. For example, they appeared to have an appreciation of the importance of a *balanced* diet, the importance of five pieces of fruit and vegetables a day, that red meat was 'riskier' than white meat, and the risks from excess fat and salt.

Having said this, although adolescents appeared to understand the broad nutritional concepts, some of the details did seem to get lost in translation. For example, the adolescents understood that egg whites were 'healthier' than the yolks; however, they missed the main reason for this belief (egg whites have less cholesterol) and exaggerated the nutritional differences:

'The white bit is healthy but you get 340 calories in the yolk' (F, 13-14, Manchester)

Most of the adolescents had only a limited understanding of some of the 'technical' language used in this context (e.g. 'nutritional supplements', 'vitamins', etc.) and many adolescents had difficulty in identifying or pinpointing the specific health benefits of things like vitamins, fibre, or specific ingredients. For example:

'I have calcium tablets, makes your hair nicer' (F, 13-14, Manchester)

Another adolescent, when asked about GI (glycaemic index) foods, questioned:

'Is it a chemical that makes you want to eat or not want to eat and fat people have it more than other people?' (M, 15-16, Manchester)

As another example, they grasped the general idea that the nutrients in fish oil are linked to brain function, but the resulting benefits were again exaggerated:

'Fish oil – it enhances the transmission between brain cells quicker so you can remember things quicker' (M, 15-16, Manchester)

Other examples of nutritional misconceptions can be found in Section 3.9.

Finally, as previously demonstrated, the adolescents did not seem to have a full appreciation of the benefits of eating healthily for its own sake. There appears to exist a general belief, especially among the males, that there is no need to worry about diet, except in the instance that it might lead to 'being fat'. Adolescents appear to feel that what they chose to eat is of no immediate concern in terms of health, only in terms of weight gain, and even this effect of a bad diet can be counterbalanced through exercise.

These types of nutritional and health misconceptions certainly constitute another barrier against healthy eating.

3.8 Perception of traditional foods

Respondents were asked what came to mind when thinking about traditional foods. A variety of foods were mentioned (See Appendix 6 for the full list from each group).

There was little difficulty in understanding the concept of traditional food. Fish and chips, roast dinner, steak and kidney pie and 'the full English breakfast' were readily mentioned but the list could also include curries and Chinese meals.

Sunday dinner was mentioned consistently in all groups with individual components, roast potatoes and Yorkshire pudding, mentioned in addition to the generic term.

Similarly a full English breakfast was common to nearly all groups, in addition to possible variations on the theme, such as boiled egg and soldiers, bacon sandwich and cheese or beans on toast.

Fish and chips were listed as traditional foods in all but one of the groups (younger females). This was often associated with a trip to the seaside. Sausages were also frequently mentioned in one guise or another, e.g. bangers and mash, egg and sausage sandwich or toad in the hole.

A cup of tea, coffee or hot chocolate or tea and biscuits were each mentioned by one or more group as being a traditional food.

Interestingly, some of the groups from Birmingham identified local brands within their list of traditional foods, including Cadbury's chocolate, Lea and Perrin's Worcestershire Sauce, HP sauce, and Bluebird Toffee.

One group of older males in particular produced a long list of traditional foods including many items, in particular puddings and sweets, the other groups had not mentioned. These included cottage pie, shepherd's pie, faggot and peas, bread and butter pudding, custard, treacle sponge, spotted dick, Victoria sponge, boiled sweets, rice pudding and jelly.

Asian dishes, such as curries and Chicken Tikka Massala, were often listed as traditional foods. To a lesser extent, some groups even listed fast foods (McDonald's, pizza, Chinese food), and processed foods as being traditional foods in the UK.

Some of the traditional foods, in particular the Sunday dinner or full English breakfast, were eaten by many of the respondents. The traditional 'home cooked' aspect may, however, have been absent for some. For example, when asked why Yorkshire pudding was thought of as

traditional, the response suggested it was not due to a recipe handed down through the generations:

'It says traditional on the pack' (F, 13-14, Birmingham)

3.9 Attitudes towards nutritional supplements

When asked about their understanding of nutritional supplements, there was a range of knowledge. Calcium and vitamins were the most commonly identified nutritional supplements, although at times they were mentioned in association with certain foods.

'Like vitamin C and calcium' (F, 15-16, Birmingham)

'Vitamin tablets and iron stuff' (F, 15-16, Bristol)

'Milk, it's got loads of calcium in it' (F, 15-16, Birmingham)

'Vitamins and minerals' (M, 13-14, Bristol)

Several respondents reported to be taking or had previously taken some supplements, mainly given to them by their parents.

'Yes cod liver oil and vitamin supplements, I have one every day...to stop me getting ill' (M, 13-14, Birmingham)

'My mum gave it them to me. She didn't think I was having enough fruit' (F, 15-16, Bristol)

Many respondents, however, even the ones who took supplements on regular basis, had little understanding of what they actually did above being beneficial for health.

'I have one like Actimel that is good for me' (M, 13-14, Birmingham)

'I have things in the morning... I don't know what they are... to keep healthy' (F, 15-16, Birmingham)

'It helps you grow and keeps you healthy' (F, 15-16, Bristol)

Only a few respondents demonstrated a reasonable understanding of the effects that some nutritional supplements had on their bodies:

'They help your bones and teeth and help you not to be sick' (M, 13-14, Birmingham)

'Cod liver oil it's for your joints, for arthritis' (M, 15-16, Birmingham)

'Fish oil for my knees, they click' (F, 15-16, Birmingham)

'It is that certain vitamins help certain things, like vitamin D helps bones' (F, 15-16, Bristol)

Some respondents were misinformed, especially the younger age group. Some cited protein and carbohydrates as nutritional supplements and were unsure as to what they did. One group even listed steroids, drugs and ‘smoking weed’ under nutritional supplements!

‘Energy, protein, fat, carbohydrates’ (M, 13-14, Manchester)

‘Like Protein Shake - a high protein based drink. It is like two steaks in a drink - it tastes terrible. Like wallpaper paste’ (M, 15-16, Manchester)

Nutrigrain - that has got nutritional stuff in it’ (M, 13-14, Bristol)

As previously discussed, the adolescents did demonstrate a lack of technical knowledge, resulting in various misconceptions regarding the role of nutritional supplements:

‘They clean your bowels’ (M, 13-14, Birmingham)

‘Omega 5, when I do exams and stuff’ (M, 15-16, Manchester)

Finally, some respondents felt that nutritional supplements were more suitable for people whose diets were lacking in certain nutrients. Others expressed reservations and wouldn’t consider taking any themselves.

‘They are for people that can’t eat everything they need’ (M, 15-16, Birmingham)

‘My sister takes vitamins because she doesn’t eat vegetables, she doesn’t like them, she says she has got to take them because she doesn’t eat all foods’ (F, 13-14, Birmingham)

‘... in those tablets you don’t know what is in there and stuff’ (M, 13-14, Bristol)

3.10 Healthy lifestyle and physical activity

3.10.1 Items associated with being healthy

Respondents were asked, at the time of recruitment, to bring with them to the focus groups something they associated with being ‘healthy’. The majority of respondents brought an item of food. This was mainly a piece of fruit (most frequently apples), although vegetables were also displayed. Fruit and vegetables were deemed healthy because of the inherent nutrients and because of the belief that five portions of fruit and vegetables should be eaten each day.

‘Just because it’s got lots of vitamins...fruit’ (F, 15-16, Birmingham)

‘You need to eat 5 pieces of fruit and veg’ (M, 13-14, Bristol)

‘Banana – a fruit and they are meant to be healthy and give you energy’ (M, 13-14, Manchester)

‘An apple a day keeps the doctor away’ (F, 13-14, Birmingham)

Cereal bars were also a popular choice; these were regarded as healthy for various reasons. As previously noted, it appears that all types of cereal bars are considered as healthy regardless of the type.

'It looks healthy and you can have one every day' (M, 13-14, Birmingham)

'Chewy milk chocolate chip bar. It has got vitamins and iron in it and it says healthy on it' (F, 13-14, Birmingham)

Many respondents brought in items relating to sports including footballs, trainers, a karate belt, a gym admission card, a pedometer, a cricket bat, golf balls, and a book about volleyball. These highlighted the general belief that regular exercise was equally important as eating healthily for a healthy lifestyle.

'Because I associate it (karate belt) with being fit and healthy' (M, 13-14, Birmingham)

'A book about volleyball. It keeps you healthy to do sport' (F, 15-16, Birmingham)

'Basketball, because it is a running ball and keeps your stamina up, keeps you healthy' (M, 13-14, Manchester)

'Tennis ball – sport and exercise – good for coordination and stuff' (M, 13-14, Manchester)

3.10.2 Healthy lifestyle

Respondents were asked to describe what they believed to be a healthy lifestyle. All agreed that exercise and diet were both important and that a healthy lifestyle needed to include both.

'Has a healthy diet and exercise' (F, 13-14, Manchester)

'I do a lot of sport and eat healthily whenever' (M, 13-14, Manchester)

'Eating healthily and going to the gym regularly and not smoking' (M, 15-16, Manchester)

The diet of someone with a healthy lifestyle was described in several ways including: less sugar, not eating McDonald's, drinking lots of water, stop eating chocolate, eating less 'junk' food, eating the right foods and a balanced diet.

'I would eat more fruit and yoghurts and less chocolate bars' (M, 13-14, Bristol)

'Eat lunch – eat more fruit and veg' (F, 15-16, Bristol)

'Don't eat so much junk' (F, 15-16, Birmingham)

'Get rid of your depression, and stop eating (chocolate)' (M, 13-14, Birmingham)

'Doing a lot of cooking so that you know what is in the food' (M, 13-14, Bristol)

Interestingly, however, the strongest imagery associated with an unhealthy lifestyle concerned lack of exercise more than a poor diet. Being a TV addicted couch potato was especially unhealthy! For the majority in the sample, occasional dietary lapses could be forgiven provided they took some exercise. Doing more physical activity and generally leading a less sedentary lifestyle was often mentioned as a way of leading a healthier life.

'Exercise, go to the gym more than I do' (F, 15-16, Bristol)

'I could be more physically active' (M, 15-16, Birmingham)

'I would join more clubs' (F, 13-14, Birmingham)

'Not being a couch potato' (M, 13-14, Bristol)

'I could eat healthier and try and use the computer less' (M, 13-14, Bristol)

Most of the respondents reported doing exercise of some kind to keep healthy, though the amount varied. The type of physical activity reported was diverse and included all types of sports.

'I run up and down stairs for no reason with my iPod it keeps you fit' (F, 13-14 Birmingham)

'I think I am ok, I probably could do more but at least I am doing something' (F, 13-14, Birmingham)

However, physical activity could also come in many other forms, such as vacuum cleaning, walking to and from school, random activities at home and even just going out with friends. Generally speaking being overweight or obese was the ultimate sign of an unhealthy lifestyle, to be avoided at all cost because of its negative impact on self image and the detrimental effect on one's social life.

'But the rest of my exercise is like when you are hanging around with your mates, you are walking around, or as you go shopping' (F, 13-14, Manchester)

'Just go out with my mates' (M, 13-14, Manchester)

'It is fun and it is more social because if you are fat you would be dead lazy, sat at home playing the computer. If you are out going to the gym you would be more social' (M, 15-16, Manchester)

In addition to eating healthily and exercising regularly, many things were thought to contribute to a healthy lifestyle, including getting enough sleep, not smoking, not drinking, not taking drugs, not watching too much TV, not having too much stress, washing regularly, having a good social life and general well being.

'Some people just abuse their body, smoking and drinking' (M, 13-14, Birmingham)

'Drinking loads of alcohol' (F, 15-16, Birmingham)

'Watching a lot of telly' (M, 13-14, Manchester)

'Don't leave the house basically, just stay in one room' (F, 13-14, Birmingham)

3.11 Sources of information regarding healthy foods

Most respondents did not consider themselves to be ill informed. As already noted, on the evidence of this sample there was a reasonably sophisticated level of understanding of what constituted a healthy diet and lifestyle, even if it did not always affect behaviour.

When asked if they were interested in knowing which foods were healthy, the majority of respondents reported that they were. Information could be obtained from a variety of sources (see Appendix 7 for a complete list). However, those who actively looked for information from sources other than those which featured in their daily lives (e.g. parents, school, TV) were in the minority.

School (notably food technology lessons) emerged as perhaps the principal source of information about healthy food. Information could come from posters, research for projects, class discussion and people visiting the school.

'In year 9 we used to have to do Food Tech and they used to tell us what is healthy and what is not' (M, 15-16, Manchester)

'I got information from school...sometimes we have discussions' (F, 13-14, Birmingham)

'Maybe at school, sometimes you get those healthy eating people' (F, 15-16, Birmingham)

'Sometimes in lessons, science, but other times we get it like as a letter off the Council or something' (M, 13-14, Manchester)

Parents were also a very important source of information about healthy eating and lifestyle.

'I get information off my dad...' (M, 13-14, Birmingham)

'My mum has got this learning thing; she is training to be a nutritionist' (F, 13-14, Birmingham)

'My mum tells me when she tries to make me eat it' (M, 13-14, Manchester)

The media, including TV documentaries, adverts, celebrity chefs, news programmes and magazines were evidently important sources of information regarding healthy foods. Interestingly, when asked to select important influences on food choice (Section 3.2), adverts and brands came out low in the overall list of influences. Despite this, there was clear evidence from the discussion that the adolescents were influenced by the media and took an interest in the topic of nutrition and obesity as portrayed by the media.

'TV with that Jamie Oliver, going to schools, changing the meals - he told you what was a load of junk' (M, 15-16, Manchester)

'TV, You are what you eat' (F, 13-14, Birmingham)

'We read magazines, we know' (F, 13-14, Manchester)

'Some things put you off like that programme ... Super size me, and stuff...that put me off McDonald's' (M, 13-14, Bristol)

'That salt advert' (F, 13-14, Manchester)

Having said this, some adolescents were sceptical about the information in the media and information given by specific companies or fast food chains.

'TV but it usually lies' (M, 13-14, Birmingham)

'They are supposed to be (healthy) but I don't know if they are' (F, 15-16, Bristol) (referring in this case to Kellogg's)

'Ronald McDonald they are trying to make it sound like healthy eating' (M, 15-16, Birmingham)

'Trying to make it look healthy which it isn't really because you don't go into McDonald's to have a salad, you go in for a burger don't you?' (M, 13-14, Manchester)

'Once they said, our burgers are made of 100% beef and it made you think, what are they made of any other day?' (F, 13-14, Manchester)

Some of the groups mentioned labels as an occasional source of information, although some respondents expressed concerns about the information given on labels. Sometimes though, adolescents deliberately avoided reading labels for some foods because they simply don't want to know!

'I don't do it on chocolate bars and things because you don't want to see' (M, 15-16, Manchester)

'It's like you can't read it' (F, 15-16, Birmingham)

'(Labelling something) fat free or whatever but then they have got as much rubbish in it so it make it no good for you anyway. So it shouldn't be misleading' (F, 15-16, Birmingham)

Only one group (younger females) reported hospitals and doctors' waiting rooms as places where information could be found relating to healthy foods, although they were not a frequently used source.

Overall, it was felt that when providing information to adolescents regarding healthy eating, the information should be catchy and practical, but equally it should be short and to the point as expressed by this participant:

'If there is a really long thing that takes up about two pages and I haven't got time to read that then - but if it is a small section' (M, 13-14, Bristol)

3.12 Concept testing for new product ideas

One of the objectives of the HELENA project was the development of new healthy products that appeal to adolescents. To help guide this research, new product concepts were developed and presented to adolescent consumers for discussion during the focus groups. This concept testing exercise took place in five different countries (Belgium, Hungary, Spain, Sweden and UK). Results from the UK concept tests are presented in this report.

In collaboration with the industrial partners of the HELENA-BEFO group, descriptions of nine different concepts (product ideas) that could be of potential interest for the target group of adolescent consumers were developed. These concepts were in the forms of verbal and graphical product descriptions, or descriptions of various product benefits.

The nine concepts that were developed fell into one of three different categories: cereal-based, meat-based, and vitamin-enriched ('miscellaneous'). Each focus group focused on only one of the categories and evaluated the three concepts for that category. Each concept was discussed in detail and then the three concepts were ranked in order of preference. The assignment of categories and the order in which the concepts were presented followed an experimental design, as shown in Table 2.

3.12.1 Meat product concepts

Three meat product concepts (see Appendix 8) were presented to three of the focus groups:
M, 13-14, Manchester
M, 15-16, Birmingham
F, 15-16, Bristol

For each concept, three statements were presented with one or two pictures to illustrate the concept. Reactions to each concept are discussed below, followed by an overall ranking of the three concepts.

Concept L - Traditional Meat Product Adapted to a Modern Healthy Way of Eating

The first concept was described as 'traditional meat products with nutritional characteristics adapted to a healthy and modern way of eating'. The concept essentially represented a healthier version of a cured meat product to be eaten cold. The statements explored reactions towards fat reduction, addition of fibre, and new ideas for packaging.

General agreement was that it would be possible to create such a product although doubts existed as to whether it would be as enjoyable. It was also assumed that lowering fat would mean adding something extra to make the product taste better, an option which was generally frowned upon.

'If you lower the fat... you lower the taste' (M, 15-16, Birmingham)

The groups didn't understand or like the idea of adding fibre to meat. Meat was not thought to be an appropriate product to be adding fibre to, as fibre was mostly associated with bread and cereal.

'I wouldn't buy it, it is like processed meat... you don't know what they put in it' (M, 13-14, Manchester)

'It would just wreck it' (M, 15-16, Birmingham)

Variations in packaging and the idea of meat in the form of 'popcorn' prompted a more positive response. Many of the respondents were keen on the idea of this type of product, perhaps because they were familiar with the idea of 'popcorn chicken' which is available from a popular fast food restaurant.

Therefore, overall there seemed to be a mixed response to this concept because although the idea was likened to processed meat which is 'bad for you', some of the respondents could see the potential for a 'fun' product which was good for you. When parts of the description were familiar to the respondents (e.g. the pictured sausages were similar to 'Pepperami' and they recognised the idea of popcorn meat), their responses were more positive compared to ideas that were incongruous to them, such as adding fibre to meat.

In terms of the visual representation of the concept, the two pictures presented with this concept provoked different reactions. Although neither picture was particularly liked the picture with the girl eating the product was most appealing due its 'cheesy' nature. The photograph of the sausages in the pack did not hold much appeal, with some of the adolescents suggesting they looked like worms and others simply stating they looked 'disgusting'. In particular, the girls seemed to associate the picture/description with that of a regular cooked sausage that was to be eaten cold rather than a cured meat product. The idea of a cold cooked sausage did not appeal to the group.

Finally, a few product ideas came out during the discussions:

'Make the packaging a bit more colourful aimed at kids, because the parents wouldn't buy it but the children might love the idea and nag for it, like I used to do' (M, 13-14, Manchester)

'You could even package them individually so you could have it like a snack - that would be easier' (M, 13-14, Manchester)

'The way they make Fruit Winders...it is all bound up and a flat kind of way' (F, 15-16, Bristol)

Concept H - Fat Free Hamburger

The second concept was described as a 'fat free hamburger (1%)'. The statements explored the adolescents' attitude towards a lower calorie, lower fat burger, and the addition of fibre to create a healthier product.

Discussion surrounding the various statements showed that the adolescents were quite open to the idea of a low fat hamburger (and even a fat free one), provided of course that the taste was not compromised.

'It sounds nice but I wonder if it tastes the same as a proper hamburger tastes like - if it tastes weird you won't have it' (M, 13-14, Manchester)

'As long as it has kept its flavour... I would buy it if it tastes like everything else but taste is first priority' (M, 13-14, Manchester)

'I would give it a chance just to see if it tastes nice or not' (F, 15-16, Bristol)

However, previous experience with low calorie alternatives has made them wary and as a result they were very sceptical about the idea.

'As if you could get a 1% fat burger to start with and it wouldn't taste very nice, even if you did' (F, 15-16, Bristol)

'No (it doesn't sound possible), because they would have done it already' (M, 13-14, Manchester)

The younger boys felt that the proposed hamburger sounded more 'processed' (which had a negative connotation) compared to a regular burger which they described as 'natural'. Again, the idea of adding fibre to a meat product did not appeal to the groups. One of the groups even suggested that adding more protein would be a better idea than adding more fibre to make a healthier burger.

Finally, one of the main issues with this concept was that adolescents generally felt that there was no point in having a fat free hamburger because they were meant to be greasy/fatty.

'Hamburgers are meant to be fatty - it is fatty food and that is why many people like it' (F, 15-16, Bristol)

'The fatter the better, I reckon, in burgers' (F, 15-16, Bristol)

'They would be no good for a barbecue' (M, 15-16, Birmingham)

If the industry could make a healthy fat free burger which tasted great the adolescents would probably eat it voluntarily, but some of them suggested it might be a better idea to simply substitute these burgers without advertising the fact that they were healthy.

In terms of the visual representation of the concept, the pictures used provoked very different reactions, with the picture of the burger in a bun considered the better of the two. The picture of the burger on the grill was not found to look appetising.

Concept EX - Enriched Cold Meat

The third concept presented was described as '*cold meats with intensive flavour and odour enriched with fish protein and other natural ingredients*'. The concept explored the idea of an innovative and modern cold meat product enriched with unique flavours such as crab or pineapple.

First impressions were not favourable as the adolescents had reservations about what the product would taste like. In particular, they were very negative about the use of fish flavour in a meat product.

'The fish puts you off - when you hear it you think, ugh fish, not nice' (M, 13-14, Manchester)

'If you know fish was in it you wouldn't try it' (F, 15-16, Bristol)

Some of the adolescents were a bit sceptical about whether it could even be done.

'You can't really have a cold meat that has got pineapple in it - I don't think you could' (M, 13-14, Manchester)

For some respondents, familiar flavoured products such as orange flavoured chocolate were deemed acceptable but the idea of flavouring a product such as cold meat was not. Others were more sympathetic to the problem, acknowledging the lack of variety and that it would be interesting to have different flavours of ham for example. The flavour ideas presented were not well received, but the concept may have some potential using different flavours instead. Marmite and Curry flavours were some of the flavours looked upon favourably, in parallel with popular flavours of crisps. In terms of marketing, this may imply that 'prawn flavour' may be better received than fish or crab.

'Maybe flavours like they do crisps, barbecue or bacon' (M, 13-14, Manchester)

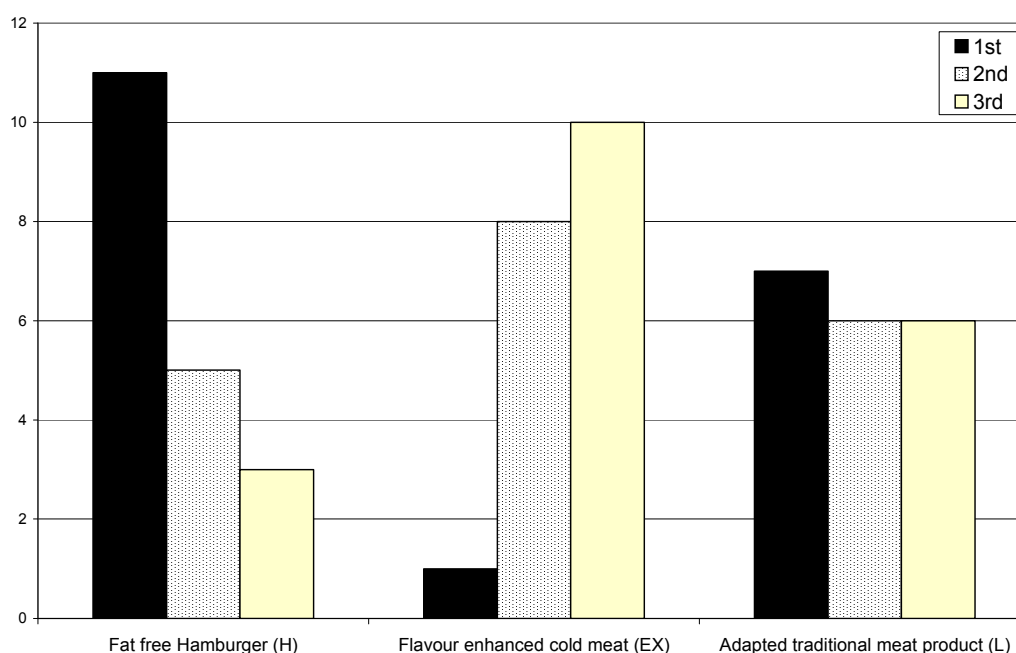
With regard to the imagery used, although the photo looked appealing to some it was felt that it didn't really relate to anything new and innovative.

Finally, the groups did not seem to associate the concept idea with adolescent consumers and felt the concept was more appropriate for older, more sophisticated people.

Overall ranking between meat concepts

Figure 3 shows the 1st, 2nd and 3rd ranking for each of the three meat concepts presented.

Figure 3. Overall ranking of the three meat concepts



The ‘fat free hamburger’ was the clear ‘winner’ despite initial scepticism of whether it was possible to achieve this without significant loss of taste.

‘It is the one we eat the most and if they can make it less fattening, it would be better’ (M, 13-14, Manchester)

The ‘adapted traditional meat product’ came in second overall while the ‘flavour enhanced cold meat’ came in third (this was most probably due to the association with fish aroma included in the description).

The concept of a low fat sausage appeared to be more *credible* than that of a low fat hamburger, although the idea of a low fat hamburger was preferred.

3.12.2 Vitamin-enriched product concepts

Three vitamin-enriched product concepts (grouped under ‘miscellaneous’) were presented to 3 of the focus groups (see Appendix 9 for details):

F, 13-14, Manchester

F, 15-16, Birmingham

M, 13-14, Bristol

These concepts could be described as a variety of vitamin- or nutritionally-enriched products. For each concept, three statements were presented with one or two pictures to illustrate the concept.

Concept ZZ - Vitamineral Tablet for Fizzy Drink

The first concept was that of a fizzy vitamin and mineral tablet which dissolves to make a fizzy drink. The statements related the positive health benefits of a daily ‘fizzy, tasty’ vitamin and mineral drink.

Initial reactions to the concept were not positive. At first, many of the respondents misunderstood the idea and assumed that the tablet was meant to be put into a fizzy drink (instead of water as intended), which was not appealing to most. However, regardless of this misunderstanding the concept was not well received because of the negative connotations for health that are associated with fizzy drinks.

‘It wouldn’t taste very nice I don’t reckon’ (M, 13-14, Bristol)

‘Because there is loads of sugar in a fizzy drink’ (F, 15-16, Birmingham)

‘It rots you teeth’ (F, 15-16, Birmingham)

‘It makes you like bloated as well...a fizzy drink’ (F, 15-16, Birmingham)

‘If you have a flavoured tablet then it is going to have E numbers, artificial flavouring’ (F, 13-14, Manchester)

Part of the reason for the negative reaction may be due to previous experience with similar products used for medicinal reasons.

‘It depends what it tastes like too because when I was young you used to have these tablets and they were absolutely mingy’ (F, 13-14, Manchester)

‘They don’t dissolve properly, you get left with little bits and you are chewing little bits’ (F, 13-14, Manchester)

‘You get like bits and stuff in it’ (F, 15-16, Birmingham)

As usual though, it always boils down to taste, and some of the respondents felt the concept could work if the manufacturers got the flavour right. However, most respondents felt this would not be achievable.

‘It depends if it was the same flavour as the drink, say like orangeade and you have got an orange tablet then yes it might work’ (F, 15-16, Birmingham)

Part of the concept’s description stated that the ‘tablet is developed together with nutritionists to get the best composition needed for a growing and active adolescent’. This statement did promote a more positive response from the group and it was felt to be the most appealing statement given as it gave more plausible, scientific and complete information. Despite this, it was agreed that it did not actually make the concept more appealing. In fact, the adolescents did not appear to relate to the concept at all, as demonstrated below.

‘It is for lazy people who can’t be bothered to cook’ (M, 13-14, Bristol)

'It is for people who are always on the go' (M, 13-14, Bristol)

'It is aimed at the wrong age group' ... 'Aim it at older people' (F, 13-14, Manchester)

Finally, the picture presented with the concept did nothing to improve the perception of the concept. It was suggested that making the picture look more representative of the concept and more interesting would help to make it more appealing.

Concept CW - Chewable Vitamineral Tablet

The second concept was a 'chewable vitamineral tablet'. The chewable tablet had more appeal compared to the tablet that dissolves into a fizzy drink for two main reasons: first because it was more familiar and credible to the respondents and second because they thought the chewable tablet would taste better.

'More believable because there is stuff like that on the market and you know it probably does work' (F, 15-16, Birmingham)

'Because it holds more taste into it than when you have water' (M, 13-14, Bristol)

Two of the statements presented with this concept suggested that the tablet would make you healthier and help you resist infections. These were met with a fair amount of scepticism, especially from the Birmingham group. It was felt that these statements were too vague and did not give the full facts of how the tablet could make you healthier, therefore the credibility of the claims was questioned.

'I don't reckon anyone would believe it unless they actually proved it' (F, 15-16, Birmingham)

'You are just helping yourself getting healthy, but it is not going to make you completely healthy' (F, 13-14, Manchester)

'You need more information' (F, 15-16, Birmingham)

'Yes it could make you healthier but it would have to be a period of time, they never mention that it could take a while' (F, 15-16, Birmingham)

The third statement was identical to that used in the previous concept and provoked the same response, that it provided more information and was the most plausible statement.

Once again the adolescents did not identify themselves with this product, but in this case they felt the chewable tablet was suitable for children rather than older persons.

The picture presented with the concept was slightly more appealing than the previous one, except that the picture seemed to suggest that the tablets would only be available in one flavour. The adolescents preferred the idea that there would be a variety of flavours available to them.

'You would want different ones' (F, 15-16, Birmingham)

'Chocolate' (M, 13-14, Bristol)

Ultimately, however, even though this concept was preferred over the dissolvable tablet, it was felt that this concept was nothing new and therefore did not hold much interest for this group of consumers.

'You can get multivitamins anywhere and you can get chewable ones as well, for kids and stuff, because I used to have them when I was little' (F, 13-14, Manchester)

Concept BR - Healthy Snack Bar

The final concept within this category was a 'healthy snack bar'. This idea was widely accepted from first impressions.

'I like this idea because I always like a snack because I get hungry in between meals and I like the fact that it says it satisfies your hunger for a longer time' (F, 13-14, Manchester)

'It is tasty which is all good and it is meant to keep your hunger satisfied for a longer time so you don't get hungry when you eat that' (M, 13-14, Bristol)

The first statement, which declared that a snack bar between meals can keep you alert and less healthy, was found to be believable and not just for this specific concept.

'It's a snack isn't it, all snacks keep you less hungry in a way don't they' (F, 15-16, Birmingham)

'You need food to keep alert and food makes you less hungry' (F, 15-16, Birmingham)

The second statement suggested that the snack bar could satisfy your hunger, and keep your body and brain active. The adolescents were slightly more cynical towards this and felt that it would depend on the ingredients.

'It depends what's in the snack bar' (F, 15-16, Birmingham)

'How can it keep you more alert unless it has got like a super thing in it' (M, 13-14, Bristol)

The last sentence stated 'this bar is developed together with nutritionists and contains more proteins and so called slow carbohydrates, which research has shown satisfies hunger for a longer time'. The adolescents were more inclined to believe this last statement because it was presented in a more scientific way and suggested that the facts were backed up with research.

'It's believable because they are backing up the point with research' (F, 15-16, Birmingham)

The picture was liked in some respects, as it was a realistic representation of the product, although the angle of the shot was such that it made the respondents think that the size of the bar was a little bit deceptive.

'I think the camera shot has made it look longer than it is. So it is actually probably half the size of that' (F, 15-16, Birmingham)

The main issue the adolescents had with this concept was that the product concept was nothing new, and that there were plenty of examples already on the market to choose from. Therefore, they felt that the marketing of such a snack bar should focus on key aspects, such as having added protein, satisfying your hunger for a longer time and being tasty. Advertising would need to highlight how the product differs from what is already available on the market.

'There are too many on the market already' ... 'you would have to advertise it pretty well' ... 'and you would have to make it kind of different' (M, 13-14, Bristol)

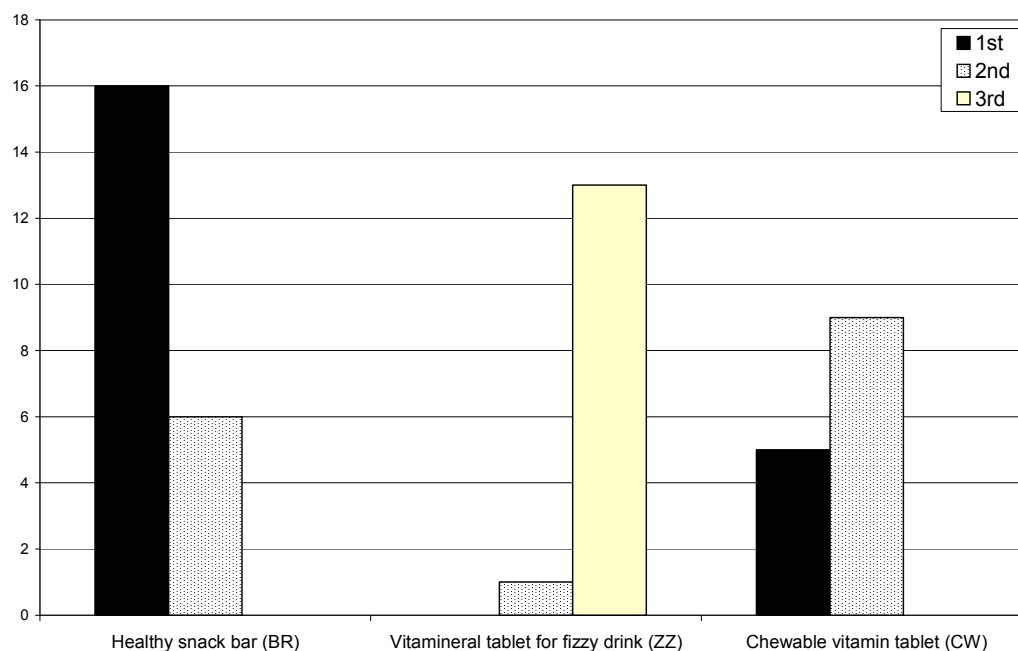
'Usually the snack bars are just like a healthier option to a chocolate bar but this one does stuff for you, like they claim they are trying to make you less hungry, so it is another option' (F, 13-14, Manchester)

'If they do bring it out they are going to have to advertise that they really are good otherwise people are going to think it is the same as the rest' (F, 13-14, Manchester)

Overall ranking between vitamin-enriched concepts

Figure 4 shows the 1st, 2nd and 3rd ranking for each of the three vitamin-enriched ('miscellaneous') concepts presented.

Figure 4. Overall ranking of the three vitamin-enriched concepts



The healthy snack bar was clearly voted the most appealing concept out of the three discussed.

'It is easy to just quickly, as you run out of the house, grab it and shove it in your bag for break or lunch' (F, 13-14, Manchester)

The chewable vitamin tablet came in second overall and the adolescents seemed very open to this idea, much more than the fizzy tablet version. The tablet for fizzy drink almost unanimously came in third and was generally not very well received.

3.12.3 Properties of cereal-based snacks

The exercise for the cereal-based snacks took on a slightly different format compared to the other two concept tests. In this case, instead of presenting specific concepts, groups were presented with properties that might be associated with cereal-based snacks.

The three cereal ‘concepts’ (see Appendix 10) were presented to 4 of the focus groups:

M, 15-16, Manchester

M, 13-14, Birmingham

F, 13-14, Birmingham

F, 15-16, Bristol

Each ‘concept’ highlighted properties of a cereal-based snack, where the properties were associated with the perceived benefit of the concept (good for your looks, good for your health, or good ingredients).

Prior to going through the three ‘concepts’, respondents were asked what type of products they perceived as being cereal-based. A variety of products were mentioned including bread, cereals, porridge, cereal bars and fruit bars. ‘Cereal-based snacks’ were interpreted mostly as cereal bars.

When asked what properties a cereal-based snack might have, the girls mentioned energy whereas the male group interpreted properties as ingredients and mentioned fruit and nuts.

Cereal bars had both positive and negative qualities attributed to them:

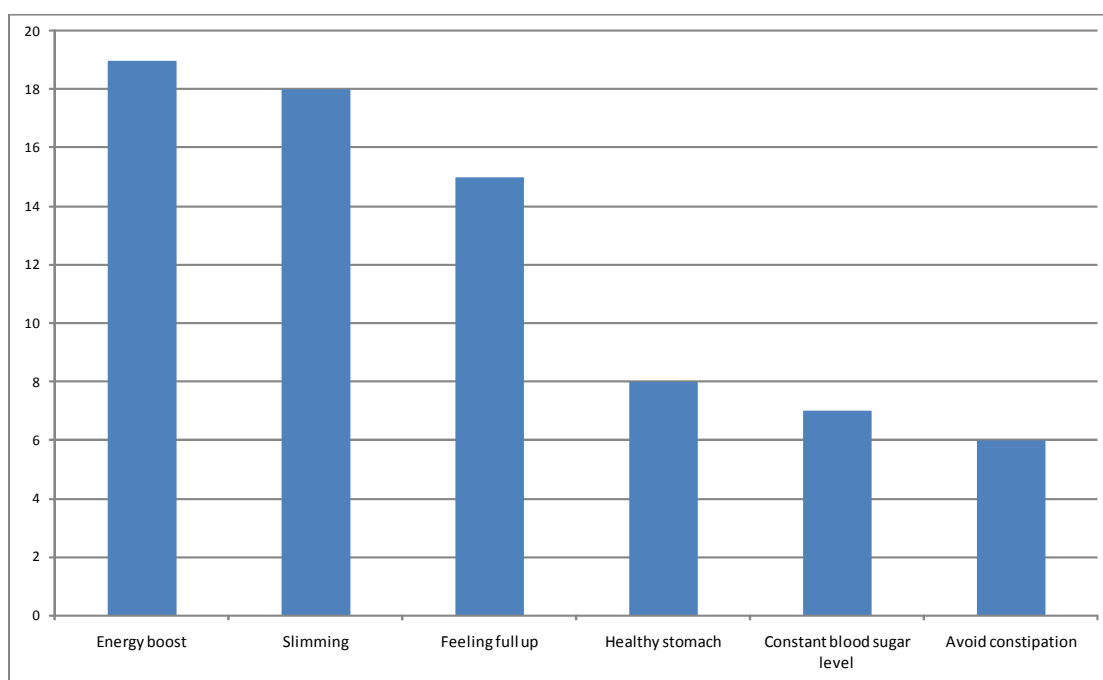
- **Pro** – they contain less fat compared to chocolate bars, they have fibre in them, low in calories, some of them taste nice and *‘it makes you feel better that you are eating something better for you’* (M, 15-16, Manchester).
- **Con** – not as filling as a chocolate bar and less value for money (you get more for your money - quantity, size, weight - when you buy a chocolate bar than when you buy a cereal bar).

Concept PB: Good for Your Health

The first concept explored properties of cereal-based snacks that were ‘good for your health’. The respondents were asked to look at the properties given, add any others they felt were important and then rank them in order of importance.

Respondents were asked to rank the top three properties *within* the ‘good for health’ concept. Responses were compiled across all respondents for each of the properties (Figure 5).

Figure 5. Rank totals for properties within the ‘good for health’ concept



Energy boost, slimming and feeling full up were the most important aspects for the adolescents. Slimming and energy boost were slightly more important for the girls than for the boys, whereas feeling full up was slightly more important for the boys.

‘I don’t really think that they fill you up much. I don’t think many snacks fill you up’ (M, 15-16, Manchester)

When the girls selected slimming, this wasn’t so much because they wanted to get slimmer but rather because they wanted to avoid getting fat.

‘It’s like a precautionary thing’ (F, 13-14, Birmingham)

The groups all liked the idea that a snack could provide an energy boost but they were a bit sceptical about this claim, especially when it came to cereal bars.

‘They don’t give you an energy boost’... ‘Tracker bar is supposed to keep you going for an hour or something like that’... ‘It is just more a selling point’ (M, 15-16, Manchester)

It was felt that other products, such as sports drinks, would do a better job at providing a boost of energy. There was also the perception that all sweet foods were capable of providing an energy boost, and there were plenty of those available.

The boys were driven by hunger, and liked the idea of having the option of a larger cereal bar. They were also keen on the idea of having a low fat cereal bar.

‘If it was under a pound and quite big, I think I would probably buy them’ (M, 15-16, Manchester)

‘I don’t want any fat’ (M, 13-14, Birmingham)

‘Constant blood sugar level’ and ‘avoid constipation’ were ranked lowest overall because the adolescents felt these issues were not as relevant to them.

‘The sugar blood level - normally that is for people with diabetes’ (M, 15-16, Manchester)

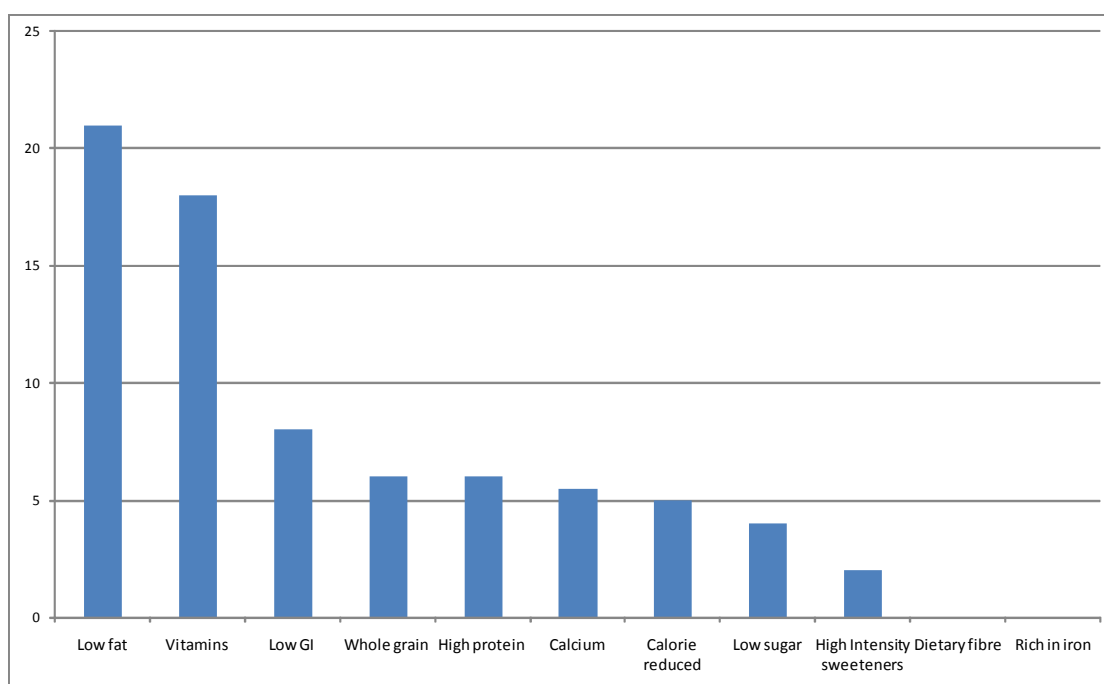
Finally, other properties added to the card (but not ranked highly), included: High in calcium, Less fattening, Exercise, Healthy heart, Calcium/Iron, Scrumptious, Easy prepared snack, Extra fruit, Too much salt, Hyperactivity, Fitter and Healthy gums.

Concept NB: Good Ingredients

The next concept explored properties of cereal-based snacks related to ‘good ingredients’.

Respondents were asked to select and rank the top three properties *within* the ‘good ingredients’ concept. Responses across all respondents were compiled for each property (Figure 6).

Figure 6. Rank totals for properties within the ‘good ingredients’ concept



Low fat and vitamins were the two main items selected under the ‘good ingredients’ category.

‘Vitamins are important part of a healthy lifestyle’ (M, 15-16, Manchester)

There were slight differences between the boys and the girls. Low fat was important to both groups but especially for the boys, whereas the girls had a slightly higher tendency to place importance on ‘vitamins’.

There was some discussion surrounding products with low sugar and the use of high intensity sweeteners. Low sugar products were not thought to taste very good and the use of high intensity sweeteners was generally frowned upon.

‘They seem to have low sugar, but they don’t taste very nice... it is horrible, really dry’ (F, 13-14, Birmingham)

‘High intensity sweeteners - that is not a good ingredient’ (F, 15-16, Bristol)

The term ‘low GI’, referring to foods that are of low glycaemic index, was unfamiliar to most of the respondents. After a brief explanation this factor went on to be ranked as the third most important overall. Dietary fibre also needed explanation for some of the groups; however, this did not go on to be ranked at all within the top three ingredients.

Other properties added to the card (but not ranked highly), included: Vitamin B6, Vegetable oil, Low salt, Taste, Food flavouring, Vegetable oil, Carbohydrates, Calms down, Tasty, Fruit, Energy and Hyper.

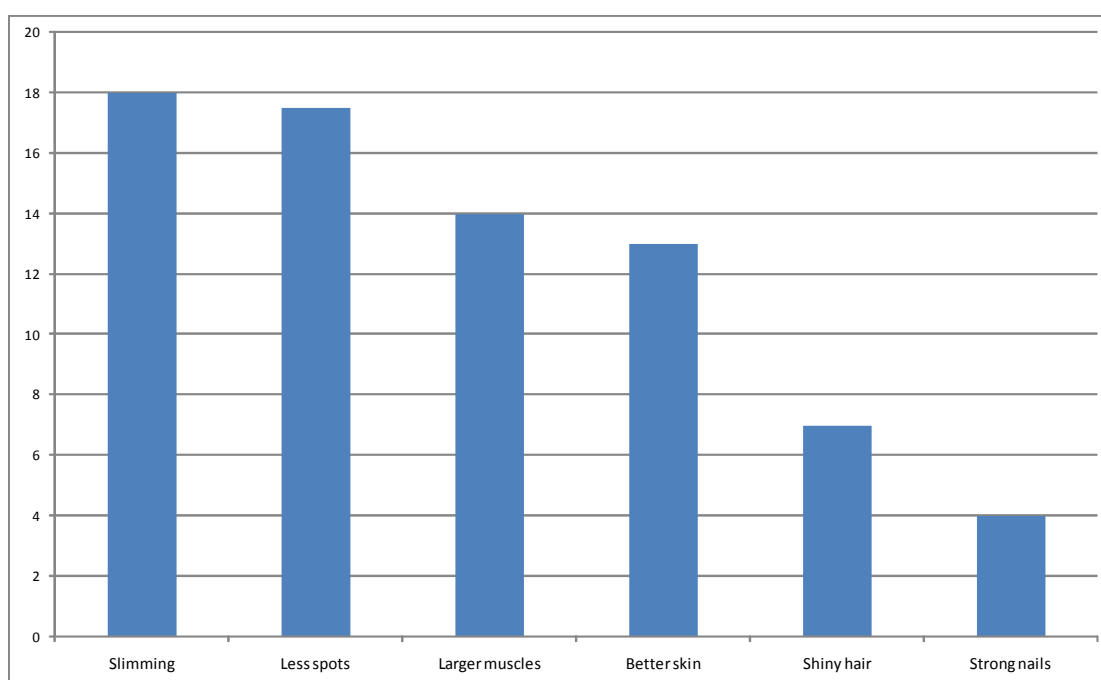
Regardless of the ingredients, how a product tastes is the main determinant of whether adolescents are willing to consume the product.

Concept GL: Good for Your Looks

The last concept was that of a cereal-based snack with properties that were ‘good for your looks’.

Respondents were asked to rank the top 3 properties *within* the ‘good for your looks’ concept. The top responses were compiled across all respondents for each property (Figure 7).

Figure 7. Rank totals for properties within the ‘good for your looks’ concept



Overall, the most popular selections were 'slimming', 'less spots' and 'larger muscles'.

Slimming was the most important property for girls. Having less spots was important to both girls and boys, but girls showed a slightly higher frequency of response for this option. Not surprisingly, girls were the only ones to select shiny hair and strong nails.

For the males, 'larger muscles' was the most highly ranked property overall, whereas none of the females ranked this attribute within their top three choices. Vanity was admittedly one of the reasons for selecting this attribute.

'You get better confidence' (M, 15-16, Manchester)

'For me it is just pulling power' (M, 15-16, Manchester)

However, both boys and girls seemed sceptical about the link between a cereal-based snack and the benefit of larger muscles:

'Larger muscles - you have got to work your muscles to get them larger' (F, 15-16, Bristol)

'How are they going to give you larger muscles if you just eat a cereal bar' (M, 15-16, Manchester)

Other properties were also identified, where the adolescents were sceptical about whether a cereal bar could deliver these benefits:

'Slimming could be if you eat it as part of a diet, but not like just like that' (F, 15-16, Bristol)

'Eating one won't make that you get less spots. If you eat 100 it will make you enormous, all that sugar and stuff. Shiny hair - yes right...' (F, 15-16, Bristol)

'You eat a cereal bar and get shiny hair?' (M, 15-16, Manchester)

The importance of looks was inevitably discussed. This was related to success in finding a boyfriend/girlfriend and feeling better about yourself.

'Looks are very important because then you can attract a partner and you feel happy' (F, 13-14, Birmingham)

'Looks because you get noticed by all the boys' (F, 13-14, Birmingham)

Good for your looks was equally important among the boys though (especially the older boys).

'If you look better, you feel more confident about yourself' (M, 15-16, Manchester)

'Makes girls attracted to you' (M, 15-16, Manchester)

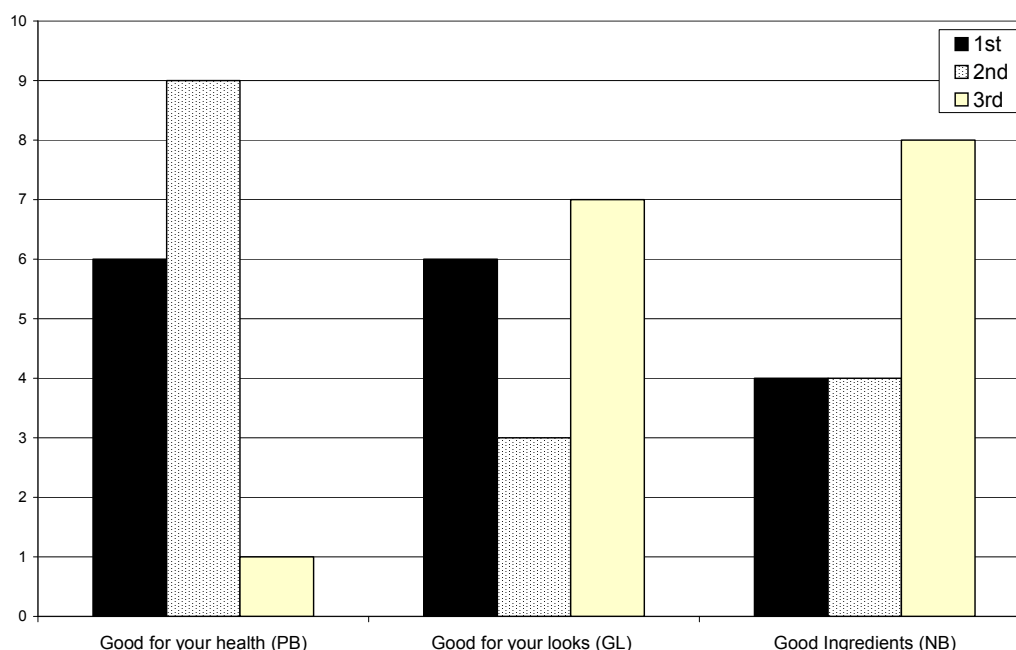
Finally, other properties that were felt to be important which were added to the card (but not ranked highly), included: Healthy bones, Less dandruff, White teeth, Tanned skin, More

energy, Stronger bones, Nicer teeth, Better figure, Enhance your sports performance, Makes you fitter and More confidence.

Overall ranking between cereal concepts

At the end of the concept testing exercise for the cereal-based snacks, after the adolescents had discussed each set of properties in detail, the respondents were asked to choose which of the three overall concepts ('good for your looks', 'good for your health' or 'good ingredients') they felt was the most important.

Figure 8. Overall ranking of the three cereal concepts*



*Note: Group 7 (F, 13-14, Birmingham) did not do overall ranking of cereal concepts.

Overall, looking at Figure 8, we can say that 'good for your health' came out on top (if we look at total number of 1st and 2nd rank selections). The majority of girls (3/5) picked 'good for your health' as their 1st selection, while the majority of boys (7/11) had this as their 2nd choice.

Good for your looks received almost a 50/50 split for 1st and 3rd rank - opinion was clearly divided as to whether this was the most important. Interestingly the boys appeared more likely to select 'good for your looks' as their first selection (5/11 boys selected this as their 1st choice) compared to the girls (1/5 girls selected it as 1st).

Good ingredients was ranked 3rd overall; this was true for both boys and girls.

4 DISCUSSION

Eating habits & behaviour

Adolescents have very specific preferences and patterns with regards to food consumption, and this can differ considerably compared to adults or younger children. The adolescents in this study, like many before them, have demonstrated several unhealthy eating behaviours. Popular snacks included chocolate, crisps and sweets, as noted in Johnson & Hackett, 1997 and Dennison & Shepherd, 1995. The adolescents also admitted that they could stand to eat more fruit and vegetables (Brown *et al.*, 2000; Croll *et al.*, 2001; Hackett *et al.*, 1997; Johnson & Hackett, 1997).

In addition to low fruit and vegetable consumption, other areas of concern that were observed surrounding adolescent food choice behaviour included high intake of 'fast foods' and foods that were high in fat, sugar and salt, and irregular eating patterns including skipping meals and frequent snacking. This was also in line with several other studies (Alexy *et al.*, 2002; Crawley and Shergill-Bonner, 1995; Crawley, 1993; Croll *et al.*, 2001; Hoglund *et al.*, 1998; Mooney *et al.*, 2004; O'Dea, 2005; Shepherd and Dennison, 1996; Truswell and Darnton-Hill, 1987; Warwick *et al.*, 1999).

Factors that influence food choices and preference

Previous studies have identified a multitude of factors that can influence adolescent food choices, preferences and consumption patterns. In general terms these included socio-economic and environmental factors like availability, cost, family income and schools, biological factors such as hunger and nutrient requirements, and social factors such as family, influence of peers, cultural norms and advertising. Age, gender and other demographic characteristics have also been shown to have varying degrees of influence (Brown *et al.*, 2000; Sheikh and Thomas, 1994a; Sheikh and Thomas, 1994b; Shepherd and Dennison, 1996; Shepherd *et al.*, 1996; Story *et al.*, 2002; Warwick *et al.* 1999).

There are also many important psychological factors that play a significant role in food choice behaviour. These include innate food preferences, familiarity, mood, attitudes towards eating, perceptions of control, habit, whether they perceive themselves to be a healthy eater and perceived barriers (Birch *et al.*, 1998; Birch and Fisher, 1998; Dennison and Shepherd, 1995; Popper and Kroll, 2005; Story *et al.*, 2002). Further information regarding factors that influence young people's food choices and preferences can be found in Gilbert and Durow (2006).

It was clear throughout the discussions that adolescents' eating habits were mainly driven by taste and what they liked to eat. This is consistent with many other studies which have shown that the most important determinants of food choice are taste of the food and the adolescent's food preference (Story *et al.*, 2002; Brown *et al.*, 2000; Birch and Fisher, 1998; Shepherd and Dennison, 1996). Of course, it is important to remember that adolescents, like all consumers, have individual likes and dislikes and may be motivated by different factors. During the focus groups, there were some examples of individuals whose food choices were motivated by health (which was ranked fourth most important overall). This can be supported by Contento *et al.* (1988) who noted that some adolescents may be hedonistically motivated, while others may be motivated by health factors.

Parents were generally responsible for purchasing and cooking food, so they too were also shown to have a very strong influence on what the adolescents ate, particularly for the evening meal. However, adolescents still had a say in what they ate, as it was clear they were not going to be forced to eat anything they didn't like. Adolescence is a crucial time as children are gaining independence from parents, which impacts on their control and autonomy over food choice (Story *et al.*, 2002; Truswell and Darnton-Hill, 1987). This can certainly have an effect on the quality of the choices made for self-prepared snacks and meals. Despite the fact that adolescents take on increased responsibility for their food choices, the role of the parents still remains crucial (O'Dea, 2005). Parents play an important role in what their teenagers eat and could extend this role further by helping adolescents learn how to put healthy eating into practice.

Convenience factors, like having foods that were readily available or easy to prepare, were also shown to have a high level of importance for the adolescents in this study. This is not surprising as lack of time and the need for convenience are barriers to healthy eating often associated with adolescence (Croll *et al.*, 2001; Story *et al.*, 2002).

Finally, although schools did not rank very highly in terms of their influence on the adolescents' food choices, they were found to play an important role by providing lunchtime meals as well as information and education regarding nutrition and healthy eating. Therefore, even if schools were seen to have less influence from the adolescents' point of view, their overall impact on adolescent food choices should not be disregarded.

Communicating healthy eating messages

Adolescents in this study demonstrated that they understood the concept and the importance of healthy eating and lifestyle. Similar to findings reported by Subratty *et al.* (2002), the respondents were aware of health related issues and understood that food plays a role in disease prevention. The adolescents showed a good understanding of the basics of nutrition and had clear opinions as to what was healthy or unhealthy. For example, they were aware that they should eat 5 portions of fruit and vegetables each day, while items such as sweets, crisps and fizzy drinks should be restricted. This is in line with previous findings (Brown *et al.*, 2000; Maskill and Jones, 1995; Neale and Langnaese, 1998). The adolescents also demonstrated awareness of nutritional and health messages presented in various formats, such as labels and ad-campaigns.

Although the adolescents understood the benefits of healthy eating, this did not necessarily translate into healthier eating behaviour. Listed among their favourite foods and regularly consumed were foods that adolescents readily classified as being 'unhealthy'. This behaviour was also identified by Brown *et al.* (2000) and by Croll *et al.* (2001). In their study, Subratty *et al.* (2002) explained that, in practice, food choice is often influenced by the way that the adolescent feels, which may help to explain this seemingly paradoxical behaviour.

Furthermore, despite their awareness and knowledge of nutrition and healthy eating, there was clear evidence that adolescents found it difficult putting this theory into practice. Previous research has also highlighted this important barrier (Brown *et al.*, 2000; Croll *et al.*, 2001; Warwick *et al.*, 1999; Birch and Fisher, 1998; Shepherd and Dennison, 1996). Difficulty translating knowledge into everyday practice is certainly one of the reasons why adolescents are not implementing healthy eating messages. Another likely reason, highlighted during the groups, is the lack of motivation to eat healthily and the attitude that transgressions in healthy

eating can be made up for via exercise. Adolescents often feel that nutrition and health are concerns that need to be addressed in the future, rather than being of immediate relevance (Croll *et al.*, 2001).

It is clear that adolescents need to be given positive messages about nutrition and health to encourage them to adopt healthy eating and lifestyle habits. On the other hand, we've seen how difficult it is to actually motivate them to carry this out. Knowing that adolescents are seeking independence and autonomy, it is important that the provision of healthy eating messages is done in a way that appeals and relates to this age group. During the discussion, one of the main reasons provided for avoiding certain foods was to avoid being fat, rather than to actively seek being healthy. The respondents were also very animated when discussing programmes such as 'supersize me' and 'you are what you eat', due to their graphic portrayals of the consequences of unhealthy eating. Could this type of 'negative' information be used to motivate positive behavioural changes? Is there something to be said for using reverse psychology when it comes to motivating adolescents? These are questions that would be interesting to pursue, but not addressed within the scope of this research.

Motivation and barriers

Previous research has shown that adolescents' food choice is often motivated by their looks, weight, appearance and energy rather than by the prevention of illness in the future (O'Dea, 2005). Girls appear to view diet and health from an appearance and body-shape point of view whereas boys tend to be more concerned with fitness, energy and being well (Subratty *et al.*, 2002).

Our focus groups revealed that the boys were just as concerned about their looks and body shape as the girls. This may be a reflection of changing attitudes in society, with more and more 'beauty products' developed for and marketed to men. Appearance was found to be important to both boys and girls, especially in order to attract a partner, and both groups expressed a desire to avoid being overweight. As previously discussed, for those who did make an effort to make healthier food choices or restrict certain foods, one of the main motivations was to avoid gaining weight.

Finally, many barriers to healthy eating were identified during the focus groups such as the cost, taste and hassle associated with healthy foods; preference for foods that are perceived to taste better and be more filling; and lack of time and need for convenience. These were in line with previous studies (Croll *et al.*, 2001; Maskill and Jones, 1995; O'Dea, 2005, Story *et al.*, 2002). Lack of concern was also evident. It was clear that many adolescents didn't really think about what they ate, they simply chose what they wanted to eat at the time, or what was convenient or available.

Reactions to new product concepts

The concepts that generated the most interest among the adolescents were the low fat hamburger and the healthy cereal bar. Low fat was an important benefit of healthy foods and the idea of a low fat product, as long as it tasted good, was a well accepted concept for both sexes. Lower fat foods were mentioned in several contexts throughout the discussions in relation to: preventing being over weight; the belief that fatty foods are not good for you; and the desire for clearer complexions.

Generally speaking, for any type of product it was felt that in order for flavour enhancement to be accepted by adolescents, two main factors need to be met: familiarity and fit for purpose. Familiar products were more likely to be accepted than totally novel products, which were regarded with suspicion. The flavours chosen for the product need to be familiar to the adolescents and appropriate for the product they are flavouring. For example, the crab flavoured cold meat product didn't work because the use of fish oil was not deemed appropriate for meat, but barbecue or bacon could conceivably work because of their familiarity due to their association with crisps.

In developing healthy products for this age group the need for ease of preparation and convenience must be considered. Furthermore, adolescents tended to have more autonomy in their choice of snacks and so the development of healthy products in the snack food market would be beneficial.

Results of the concept test examining properties of cereal based snacks showed that the benefits of fibre did not appear to be well understood. Other researchers have also noted this, for example Maskill and Jones (1995) who noted in their study, examining food choice and eating patterns of 13-16 year old New Zealanders, that no one mentioned fibre as a positive attribute of fruit and vegetables. Similarly, despite increased popularity in diets featuring low Glycaemic Index (GI) foods, the term was not widely recognised among adolescents and needed to be explained. Therefore, if cereal products with high fibre or low GI are to be promoted to this age group, it may be necessary to educate adolescents and explain how these benefits relate to them directly. Providing information backed up by science will make the benefits of the product more believable to adolescents.

In terms of the meat products, the 'traditional meat product adapted to a modern healthy way of eating' and the 'enriched cold meat' concepts were not necessarily associated with being healthy, due to the fact that they were regarded as processed food products and were often associated only within the context of a sandwich or pizza topping. Furthermore, British adolescents' idea of a 'traditional' meat product was very different to the meat product proposed within this concept. British adolescents are open to the idea of having meat-based snacks but it seems their first instinct is to perceive and regard the images provided as fresh/unprocessed meat products (e.g. fresh sausages). The hamburger product was well received and the most familiar to the adolescents. However, it appears there was a lot of scepticism about whether a hamburger could be fat free or at least whether this lower fat version would taste as nice.

Finally, from a method point of view, although the exercise examining 'properties of cereal-based snacks' did promote some lively discussion, it was felt that these concepts were too abstract. The 'meat' and 'miscellaneous' concepts were easier to grasp and promoted more ideas and discussion.

5 CONCLUSION

An understanding of adolescents' food choices and preferences is essential to aid in the provision of better food choices and services for adolescents and to highlight, and ultimately address, problems caused by inadequacies in the adolescent diet.

Food choices among adolescents are driven by the taste of the food and the adolescent's preferences. The focus groups revealed that the adolescents are open to the idea of consuming healthier product alternatives, such as reduced fat products, provided that taste is not compromised.

Crisps, chocolate, sweets, biscuits, cereal bars and fruit were all found to be popular snacks. The need for convenience, the fact that adolescents often feel hungry, and the perception that healthy foods won't fill them up, may all be contributing to unhealthy snacking. Therefore, in order to improve eating habits and lifestyle among adolescents, healthy snacks that appeal to adolescents need to be made available, the perceived barriers to healthy eating highlighted in this report need to be addressed, and actionable messages regarding healthy eating and lifestyle need to reach adolescents.

It is acknowledged that it is difficult to classify individual food items as 'healthy' or 'unhealthy', as it is the adolescent's overall diet that is important. Having said this, industry does play a positive role in providing a range of food options including healthier alternatives of products on the market. Results from these focus groups should benefit the industry by helping them to develop and promote a range of 'healthy' products aimed at adolescents within the European market.

Finally, it is hoped that insights from this research will help to establish policies and provide practical tools, including ideas for new healthy snack products, for promoting and supporting positive health and lifestyle habits among the adolescent population.

REFERENCES



- Alexy U, Sichert-Hellert W, Kersting M (2002) Fifteen-year time trends in energy and macronutrient intake in German children and adolescents: results of the DONALD study. *British Journal of Nutrition* 87: pp 595-604.
- ASTM Committee E18 (2003) E2299-03: Standard Guide for Sensory Evaluation of Products by Children.
- Birch LL and Fisher JO (1998) Development of eating behaviors among children and adolescents. *Pediatrics* 101: pp 539-549.
- Birch LL, Gunder L, Grimm-Thomas K and Laing DG (1998) Infants' consumption of a new food enhances acceptance of similar foods. *Appetite* 30: pp 283-295.
- Brown K, McIlveen H and Strugnell C (2000) Nutritional awareness and food preferences of young consumers. *Nutrition & Food Science* 30: pp 230-235.
- Crawley HF (1993) The energy, nutrient and food intakes of teenagers aged 16-17 years in Britain. 1. Energy, macronutrients and non-Starch polysaccharides. *British Journal of Nutrition* 70: pp 15-26.
- Crawley H and Shergill-Bonner R (1995) The nutrient and food intakes of 16-17 year old female dieters in the UK. *Journal of Human Nutrition and Dietetics* 8: pp 25-34.
- Croll JK, Neumark-Sztainer D and Story M (2001) Healthy eating: what does it mean to adolescents? *Journal of Nutrition Education* 33: pp 193-198.
- Contento IR, Michela JL and Goldberg, CJ (1988) Food choice among adolescents: population segmentation by motivations. *Journal of Nutrition Education* 20: pp 289-298.
- Dennison CM and Shepherd R (1995) Adolescent food choice: an application of the theory of planned behaviour. *Journal of Human Nutrition and Dietetics* 8: pp 9-23.
- Gilbert CC and Durow AC (2006) Issues in children's food choices: methods for sensory and consumer research. CCFRA Review No. 53.
- Johnson B and Hackett AF (1997) Eating habits of 11-14-year-old schoolchildren living in less affluent areas of Liverpool, UK. *Journal of Human Nutrition and Dietetics* 10: pp 135-144.
- Hackett AF, Kirby S and Howie M (1997) A national survey of the diet of children aged 13-14 years living in urban areas of the United Kingdom. *Journal of Human Nutrition and Dietetics* 10: pp 37-51.
- Hoglund D, Samuelson G and Mark A (1998) Food habits in Swedish adolescents in relation to socioeconomic conditions. *European Journal of Clinical Nutrition* 52: pp 784-789.

- Maskill C and Jones S (1995) A qualitative study on adolescent food choice and eating patterns. *Proceedings of the Nutrition Society of New Zealand* 20: pp 128-135.
- Mooney E, Farley H and Strugnell C (2004) Dieting among adolescent females – some emerging trends. *International Journal of Consumer Studies* 28: pp 347-354.
- Neale R and Langnaese K (1998) School meals: teenagers' attitudes to nutritional labelling and intended effects on food choice. *British Food Journal* 100: pp 320-325.
- O'Dea J (2005) Improving adolescent eating habits and prevention of child obesity: are we neglecting the crucial role of the parents? *Nutrition & Dietetics* 62 (2-3): pp 66-68.
- Popper R and Kroll JJ (2005) Conducting sensory research with children. *Journal of Sensory Studies* 20: pp 75-87.
- Royal College of Physicians (2004) Storing up problems. The medical case for a slimmer nation.
- Sheikh N and Thomas J (1994a) Factors influencing food choice among ethnic minority adolescents. *Nutrition & Food Science* 94: pp 18-22.
- Sheikh N and Thomas J (1994b) Factors influencing food choice among ethnic minority adolescents. Part 2. *Nutrition & Food Science* 94: pp 29-35.
- Shepherd R and Dennison CM (1996) Influences on adolescent food choice. *Proceedings of the Nutrition Society* 55: pp 345-357.
- Shepherd R, Paisley CM, Sparks P, Anderson AS, Eley S and Lean MEJ (1996) Constraints on dietary choice: the role of income. *Nutrition & Food Science* 96: pp 19-21.
- Subratty AH, Imrit S and Jowaheer V (2002) A web-based survey on adolescents' perceptions of food. *Nutrition & Food Science* 32: pp 210-213.
- Story M, Neumark-Sztainer D and French S (2002) Individual and environmental influences on adolescents' eating behaviors. *Journal of the American Dietetic Association* 102 Supplement: pp S40-S51.
- Truswell AS and Darnton-Hill I (1987) Food habits of adolescents. *Nutrition Reviews* 39: pp 73-88.
- Warwick J, McIlveen H and Strugnell C (1999) Food choices of 9-17-year olds in Northern Ireland. Influences and challenges. *Nutrition & Food Science* 99: pp 229-236.
- World Health Organization (2006) *European Charter on Counteracting Obesity*. WHO European Ministerial Conference on Counteracting Obesity. Diet and physical activity for health. Istanbul, Turkey, 15-17 November 2006, <http://www.euro.who.int/Document/E89567.pdf>.

APPENDICES

APPENDIX 1

INSTRUCTIONS:

Please use a blue or black pen
Please fill in the box like this  or like this 

RECRUITMENT QUESTIONNAIRE P85273



Campden & Chorleywood Food
Research Association Group
Chipping Campden
Glos. GL55 6LD
Tel: 01386 842000

Respondent ID

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Good Morning/Afternoon,

We are conducting a survey on behalf of Campden & Chorleywood Food Research Association, an independent market research company. We are carrying out a survey in this area. Please fill in the information below.

Name _____ Name of child _____

Address _____

Telephone Number _____ Email _____

**FOR RESPONDENTS 16 YEARS OR YOUNGER, PARENTAL CONSENT MUST BE GIVEN.
OBTAIN SIGNATURE OF PERMISSION FROM PARENT/GUARDIAN:**

'I agree that I give permission for my child to attend the group discussion.

I also agree to ensure that my child has a safe and escorted means of getting to and from the group by a responsible adult known to me.'

Signature of parent/guardian _____

INTERVIEWERS DECLARATION

Interviewer's name _____

I declare that the interview was carried out in accordance with the written instructions with the person named here, who was previously unknown to me.

Date of interview ____/____/____

Signed _____

Social grade

Occupation of Chief Income Earner _____

Job Title of Chief Income Earner _____

Industry _____

SocioEco

A/B/C1 ☐

C2/D/E ☐

} NO QUOTA

Age of child

Younger than 13 years ☐ DO NOT RECRUIT

13 years ☐

14 years ☐

15 years ☐

16 years ☐

} REFER TO
QUOTA

17 years or older ☐ DO NOT RECRUIT

Gender of child

Male ☐

Female ☐

} REFER TO
QUOTA

63364

INSTRUCTIONS:

Please use a blue or black pen

Please fill in the box like this

or like this ☒**RECRUITMENT
QUESTIONNAIRE P85273**

Campden & Chorleywood Food
Research Association Group
Chipping Campden
Glos. GL55 6LD
Tel: 01386 842000

Respondent ID

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1) Does your child attend school full time?

Yes ☐No ☐ **DO NOT RECRUIT**

2) What type of school do they attend?

State ☐Private ☐Other(please specify) ☐ _____

3) Has your child ever attended a group discussion or depth interview?

Yes ☐ **DO NOT RECRUIT**No ☐

**ALL CHILDREN NOT TO HAVE PREVIOUSLY TAKEN PART
IN A GROUP DISCUSSION OR DEPTH INTERVIEW.**

4) Which of the following types of products would your child consider eating? (MARK ALL THAT APPLY)

Vitamin and/or Mineral Supplements ☐New Types of Fizzy Drinks ☐Healthy Snack Bar ☐**AT LEAST ONE MUST BE CODED FOR
GROUPS ON VITAMINS (MISC)**Meat Products, e.g. Sausages, Ham... ☐Cold Meats ☐**AT LEAST ONE MUST BE CODED FOR
GROUPS ON MEAT**Cereal Bars ☐Oatmeal or Porridge ☐Whole Grain Snacks ☐**AT LEAST ONE MUST BE CODED FOR
GROUPS ON CEREAL**

5) Which of the following statements would you say best describes your child? (MARK ONLY ONE)

He/she finds it easy to talk to people he/she knows

☐He/she is pretty quiet in company, he/she doesn't find it easy to
speak to people unless he/she knows them quite well☐**DO NOT RECRUIT**He/she likes talking to people he/she has never met before but
only if they start the conversation☐He/she is always interested to hear other people's opinions and to
share his/her own☐

63364



INSTRUCTIONS:

Please use a blue or black pen

Please fill in the box like this

or like this ☒**RECRUITMENT
QUESTIONNAIRE P85273**

Campden & Chorleywood Food
Research Association Group
Chipping Campden
Glos. GL55 6LD
Tel: 01386 842000

Respondent ID

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6) How are you related to the child?

Father ☐Mother ☐Step Father ☐Step Mother ☐Guardian ☐Other (please specify) ☐ _____

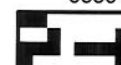
**RESPONDENT MUST
BE EITHER PARENT
OR GUARDIAN OF
THE CHILD**

Interviewer Notes**a) Check the adolescent qualifies for test.****b) Obtain permission from either parent or guardian of the child.****c) Invite to attend focus group:**

- We would like to invite your child to attend a group discussion about food and food choices.
- There will be around seven other boys/girls (read as appropriate) attending the session which will be held in an accredited market research facility on: XX.XX.05 (date of the focus group).
- The session will last between 1 1/2 hour and 2 hours and the group will be run by a qualified market researcher.
- Can I assure you that neither your full name or address would be made known to the organisation sponsoring the research, and there would be no sales follow-up as a result of your participation.
- The group discussion would be audio recorded to allow members of the sponsoring organisation to listen to the research at a later date.
- We would be happy to tell you which organisation the research is being done for during the discussion, but would prefer not to reveal it at this stage in case it affects the results.

d) Give invite and pre-group task to adolescent.

Pre-group task: We would like the child to bring to the group one item that they associate with being 'healthy'.
Note to the recruiter: by 'healthy' we mean anything that they associate with healthy living, healthy eating, healthy lifestyle, etc...



APPENDIX 2

HELENA Focus Groups - DISCUSSION GUIDE

MODERATOR. As the participants enter the room – collect their 'items' that they have brought with them and place them on a side table or out of sight.

Introduction (Up to 5 mins)

- Outline of why we do research; introduction to CCFRA; groups will be audio recorded; confidentiality and codes of practice.
- Explain that we've been asked by an organisation to talk about food and food choices made by people.
- Explain that there are no right or wrong answers, that its your views that are important, and that want everyone to participate, but please try not to speak at the same time.

Introduction of respondents (Up to 7 mins)

- First name and whether they have any older/younger brothers or sisters.
- Tell us a little bit about school – what are your favourite and least favourite subjects

Eating habits (Up to 15 mins)

I want to start by asking you about what foods you typically eat on weekdays during school term.

Thinking first about BREAKFAST (then focus on lunch/dinner):

....What, if any, foods do you eat for breakfast/lunch/dinner?

....Where do you normally eat breakfast/lunch/dinner? (at home, on the street, school canteen, fast food restaurant, supermarket, in the schoolroom)

.... Who prepares your breakfast/lunch/dinner?

.... Do you eat breakfast/lunch/dinner on your own, with family or friends?

.... Who normally decides what you will eat for breakfast/lunch/dinner?

.... Is the weekend different from weekdays? If so, in what way?

REPEAT ABOVE FOR LUNCH TIME EATING HABITS

REPEAT ABOVE FOR DINNER TIME EATING HABITS

We've talked about breakfast, lunch and dinner but what about eating at other times during weekdays? What kind of snacks do you typically eat?

What are your most favourite snacks (weekday) – THE MODERATOR WILL WRITE DOWN THOSE NOTED ON FLIPCHART.

What about eating at other times during weekends? What kind of snacks do you typically eat?

What are your most favourite snacks (weekend) – THE MODERATOR WILL WRITE DOWN THOSE NOTED ON FLIPCHART.

Food choices (Up to 20 mins)

What I'd like to do now is to give you a list of things that may have an influence on what you eat for breakfast, lunch and dinner.

Have a look through the list and individually I'd like you to choose, or write in if not on the list, and rank the top three things (first, second, third) in order of importance in terms of deciding what you eat - where 1 is the most important – for each occasion.

Hand out Showcard A (see attached).

RESPONDENTS COMPLETE SHEET INDIVIDUALLY

Thinking then about breakfast

What was the most important thing influencing your choice here? How many of the group chose this option? Why is this option important? (Probe fully)

What else did the group choose as the most important thing influencing your choice? How many of the group chose this option? Why is this option important? (Probe fully)

[MODERATORS – if lots of topics discussed for 1st choice then can move on; if all say the same thing for 1st choice, then can ask about 2nd and 3rd choices...]

If 'Health' option not mentioned

Nobody mentioned health as influencing their choice. Why is that?

REPEAT ABOVE FOR LUNCH TIME FOOD CHOICES

REPEAT FOR DINNER TIME FOOD CHOICES

REPEAT FOR SNACK FOOD CHOICES

COLLECT SHOWCARD A FROM RESPONDENTS

Do you have favourite food(s)/favourite things to eat? What are these and how often do you eat these food(s)?

What other types of foods do you enjoy eating?

Are there any types of food you enjoy but you positively restrict or limit the amount of you eat? Why?

[MODERATOR – probe further e.g. for the foods that you avoid – is it because of health reasons, or is it because you are image conscious, or is it because you are on a diet or taking care of your body/weight...]

Does anyone know what nutritional supplements (e.g. vitamins/herbal remedies/probiotics) are? If yes – ask them to describe their understanding.

What do you think about nutritional supplements? Why is that?

[MODERATOR – 1. Do not ask directly whether anyone is taking them as they may find this question too invasive in a group situation – the information may be volunteered by respondent as part of the discussion; 2. Can give examples if they are completely blank].

Healthy food and Product Development (Up 15 mins)

Game: You were asked to bring along an item that you associate with being “healthy”

Please tell us what this item is and why you think it’s healthy?

What comes to mind when I ask you to think about healthy food? (PROBE FULLY) – THE MODERATOR WILL WRITE DOWN THOSE NOTED ON FLIPCHART. Why is that?

Do you eat these foods? Why/why not?

What comes to mind when I ask you to think about traditional food? (PROBE FULLY) – THE MODERATOR WILL WRITE DOWN THOSE NOTED ON FLIPCHART. Why is that?

[Note. If the adolescents are struggling with what ‘traditional’ is – give them an example, such as “for example in Italy, pasta is a traditional food” or “in China, rice is a traditional food”]

Do you eat these foods? Why/why not?

Healthy lifestyle and physical activity (Up to 15 mins)

If I ask you to describe a healthy lifestyle, what things come to mind?
Why is that? (PROBE FULLY)

What things do you do to look after your health?

What kinds of sport activities are you doing regularly – by that I mean both inside and outside of school hours? How much time do you spend taking part in/playing sport in a typical week?

Do you think you could make your lifestyle healthier? In what way? Why is that?

How would you describe a person who has a non-healthy lifestyle...

Sources of information about healthy food (Up to 5 mins)

Are you interested in knowing which foods are healthy?

Do you feel well informed about what foods are healthy for you? Why is that?

What sources of information, if any, do you personally look at for information on what are healthy foods? (Spontaneous mentions – MODERATOR to write down on Flipchart.)

[If they need help, can prompt: what about TV, radio, newspaper, magazine, advertising, friends, family, school, school subject, sport club, internet, information brochures from the food industry (leaflets, magazine ads, information on the packaging etc.)]

Which sources are you most likely to use? Why is that?

Concept Testing (Up to 30 mins)

[MODERATOR: SELECT GAME 1 for 'MISC' Groups; GAME 2 for 'MEAT' GROUPS **OR** GAME 3 for 'CEREAL' Groups; DEPENDING ON THE CATEGORY (MISC., MEAT OR CEREAL) ASSIGNED TO THE GROUP]

[NOTE. MODERATOR will make copies of each concept for each participant and present it to them with a pen. Different groups will receive the concepts in different order. Present the 3 cards in the order specified for that group – please refer to the design.]

Game 1: Concept testing (for 'Miscellaneous' GROUPS)

Availability of 3 concepts

You will be presented with **3** different concepts.

MODERATOR: Read title of each of the concepts in order that they will be presented in that particular group.

Then, the MODERATOR will pass a copy of **the first** concept and then read the concept aloud; Ask the participants to highlight/underline on the paper the things that catch their attention.

Discussion points

- What do you think about it? (In order to know what are the spontaneous reactions to it).
- Have you underlined anything? Why? Why not?

The first concept will then be discussed in more detail (see below for each concept)

Then, the MODERATOR will REPEAT the above for the second and third concept

For all 3 'MISC' concepts - the same discussion notes
--

Moderator: Now we are going to read each paragraph separately

1st paragraph

Do you think this statement is true – do you think it is possible?

Does this idea appeal to you?

Would it be something that you think is suitable for you? – Why/why not?

2nd paragraph

Do you think this statement believable?

Do you think it is a good marketing angle?

Does this appeal to you?

3rd paragraph

What do you think about this statement? Do you think it is a good marketing angle?

Is it believable?

Do you think it would be possible to create a product like that?

Does this appeal to you?

Would it be something that you think is suitable for you? – Why/why not?

Thinking of the three statements which is more appealing? Why/why not?

Can you think of anything that you could add to make this kind of product more appealing to you?

Does the picture appeal to you?

Do the pictures relate to the concept ideas?

Which do you think relates mostly to the three ideas presented? Why/why not?

ONCE ALL 3 CARDS HAVE BEEN DISCUSSED...

Finally after going through each concept, RANK the 3 concepts

[Which do you prefer the most (write No. 1 on concept); Which do you prefer the second most (write No. 2); Which do you prefer the least (write No. 3)]

MODERATOR – Collects the cards from the respondents

THANK & CLOSE

Game 2: Concept testing (FOR 'MEAT' GROUPS)

Availability of 3 concepts

You will be presented with **3** different concepts.

MODERATOR: Read title of each of the concepts in order that they will be presented in that particular group.

Then, the MODERATOR will pass a copy of **the first** concept and then read the concept aloud; Ask the participants to highlight/underline on the paper the things that catch their attention.

Discussion points

- What do you think about it? (In order to know what are the spontaneous reactions to it).
- Have you underlined anything? Why? Why not?

The first concept will then be discussed in more detail (see below for each concept)

Then, the MODERATOR will REPEAT the above for the second and third concept

Concept L Traditional meat product adapted to a healthy modern way of eating

Moderator: **This concept could be a cold cure sausage type product, for example pepperoni**

Now we are going to read each paragraph separately

1st paragraph

Do you think it would be possible to create a product like that?

Does this idea appeal to you?

Would it be something that you think is suitable for you? Why/why not?

2nd paragraph

Do you think it would be possible to create a product like that?

Does this appeal to you?

Would it be something that you think is suitable for you? Why/why not?

3rd paragraph

What do you think about this idea?

Do you think it would be possible to create a product like that that could be packed in a more convenient way?

Does this appeal to you?

Would it be something that you think is suitable for you? Why/why not?

Thinking of the three statements which is more appealing? Why/why not?

Can you think of anything that you could add to make this kind of product more appealing to you?

Which of these pictures appeals to you most?
Do the pictures relate to the concept ideas?
Which picture do you think relates mostly to the three ideas presented? Why/why not?

Concept H Fat free hamburger

Now we are going to read each paragraph separately

1st paragraph

Do you think it would be possible to create a product like that?
Does this idea appeal to you?
Would it be something that you think is suitable for you? Why/why not?

2nd paragraph

What do you think of this statement?
Do you think it is a good marketing statement?
How would you highlight the benefit of this product?

3rd paragraph

What do you think about this idea?
Do you think it would be possible to create a product like this?
Does this appeal to you?
Would it be something that you think is suitable for you? Why/why not?

Thinking of the three statements which is more appealing? Why/why not?
Can you think of anything that you could add to make this kind of product more appealing to you?

Which of these pictures appeals to you most?
Do the pictures relate to the concept ideas?
Which picture do you think relates mostly to the three ideas presented? Why/why not?

Concept EX Enriched cold meat

Now we are going to read each paragraph separately

1st paragraph

Do you think his statement is true?
Does this idea appeal to you?
Would it be something that you think is suitable for you? Why/why not?

2nd paragraph

What do you think of this idea?
Do these flavours appeal to you? Why/why not?
How would you think a product like this would be used (e.g. on its own, in sandwiches, toasties, salads.....)?

3rd paragraph

What do you think of this statement?
Do you think it is a good marketing statement?
Do you see yourselves as his type of consumer?

Thinking of the three statements which is more appealing? Why/why not?
Can you think of anything that you could add to make this kind of product more appealing to you?

Does the picture appeal to you? Why/why not?
Does the pictures relate to the concept ideas?
What other pictures would you use to represent this idea?

ONCE ALL 3 CARDS HAVE BEEN DISCUSSED...

Finally after going through each concept, RANK the 3 concepts
[Which do you prefer the most (write No. 1 on concept); Which do you prefer the second most (write No. 2); Which do you prefer the least (write No. 3)]

MODERATOR – Collects the cards from the respondents

THANK & CLOSE

Game 3: Properties of Cereal-based snacks (FOR 'CEREAL' GROUPS)

Availability of 3 concept sheets/cards (Cereal=**CE**)

What kind of products do you think of as being 'cereal-based'?

Thinking specifically of cereal-based snacks – what would you perceive as a cereal-based snack?

What kind of benefits and properties should a cereal-based snack have?
[Moderator – to write down on the Flipchart]

MODERATOR: now, I have three cards with more properties besides those you just told me. I am going to hand it out to you, **(hand out first one)**. Read this card add more properties if you want.

[NOTE. Different groups will receive the 3 cards in different order, **ONE AT A TIME** Present the 3 cards in the order specified for that group – please refer to the design]

Use following guidelines for discussion for each card:

GOOD INGREDIENTS

MODERATOR: We are going to read the properties aloud and let's see....

Which of these do you recognise?

Do you understand what they do, what effects they have on our bodies?

Which do you think are important for you? Why?

What foods might contain these?

What new properties did you add to this card? Why?

Now of all those we have, we have to choose the 3 most important and rank them in relation to the importance that they have for you (write numbers 1,2,3 on properties of importance)

GOOD FOR YOUR LOOKS

MODERATOR: We are going to read the properties aloud and let's see....

Which of these are important for you? Why?

What kind of foods do you associate with helping you achieve these things?

Do you think a cereal-based snack bar could deliver any of these?

What new properties did you add to this card? Why?

Now of all those we have, we have to choose the 3 most important and rank them in relation to the importance that they have for you (write numbers 1,2,3 on properties of importance)

GOOD FOR YOUR HEALTH

MODERATOR: We are going to read the properties aloud and let's see....

Which of these health benefits do you understand?

Which are important to you why?

What kind of foods do you associate with helping you achieve these things?

Do you think a cereal-based snack bar could deliver any of these?

Now of all those we have, we have to choose the 3 most important and rank them in relation to the importance that they have for you (write numbers 1,2,3 on properties of importance)

ONCE ALL 3 CARDS HAVE BEEN DISCUSSED...

Ok, and if you have to choose between the three groups: good for health, good ingredients or image (good for your looks), what do you prefer? Why?

Now imagine a product that has these characteristics. How do you imagine this product to be (spontaneously)?

[Then prompt: What would it taste like, what would it look like, how would it be prepared, etc.]

Further discussion (if time allows):

It could be a snack? And bread? And what about bars? And drinks? And hot cereals? (They will choose the most suitable format for them and the properties)

Is there a range of products or is it an only product (one flavour, etc.)? It is filled with something? How do you imagine its package? How many portions should it have? What size is it?

MODERATOR – Collects the cards from the respondents

THANK & CLOSE

SHOWCARD A

What are the three most important factors influencing what foods you typically eat at breakfast, lunch, dinner, and for snacks?

For each eating occasion, choose (or write in if not listed) three factors and RANK them 1st, 2nd, or 3rd.

<i>Breakfast</i>	<i>Lunch</i>	<i>Dinner</i>	<i>Snacks</i>
My parents	My parents	My parents	My parents
Friends	Friends	Friends	Friends
School	School	School	School
Taste	Taste	Taste	Taste
Health	Health	Health	Health
Readily available	Readily available	Readily available	Readily available
Easy to prepare	Easy to prepare	Easy to prepare	Easy to prepare
Price	Price	Price	Price
Habit	Habit	Habit	Habit
Country of origin	Country of origin	Country of origin	Country of origin
Brand	Brand	Brand	Brand
Adverts (TV/Press/ Magazine/Radio)	Adverts (TV/Press/ Magazine/Radio)	Adverts (TV/Press/ Magazine/Radio)	Adverts (TV/Press/ Magazine/Radio)
A diet I'm following	A diet I'm following	A diet I'm following	A diet I'm following
Medical reason	Medical reason	Medical reason	Medical reason
Other (please write in)	Other (please write in)	Other (please write in)	Other (please write in)
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

APPENDIX 3

FAVOURITE SNACK FOODS

Group 1 (M, 13-14, Manchester)	Group 2 (M, 15-16, Manchester)
Crisps Crunch Corner yoghurt Chocolate bar Sausage roll Fruit Skips Doritos Haribo Bowl of pasta Pot Noodle Fruit salad	Chocolate bars Apples Smoothies Yoghurt Crisps Tracker bar Biscuits Chocolate - eat more at weekends Popcorn Bacon bap Soup Cereal Ice cream Full English Breakfast Toast
Group 3 (F, 13-14, Manchester)	Group 4 (F, 15-16, Bristol)
Chocolate bar Flap jacks Biscuit Crisps Chewitz Cereal Ice cream Ryveta	Doughnuts Crisps Biscuits Chips Chocolate Sweets Fruit
Group 9 (M, 13-14, Bristol)	Group 10 (F, 15-16, Bristol)
Beefburgers Greggs i.e. pies and pastry Chocolate cake Nutrigrain Cereal grain Cakes Fruit Yoghurt Ice cream Crisps Chocolate bars Sandwiches Toasties Apple pie Yogurt	Crisps Olives Grapes Apples Pears Chocolate Carrots Figs Biscuits Hob Nobs Pork pies Scotch eggs

Group 5 (M, 13-14, Birmingham)	Group 6 (M, 15-16, Birmingham)
Bowl of cereal Cereal bars Double choc chip Cookies Chocolate Muffins Fruit –Peaches, Plums Ice-cream –strawberry split Crisps Biscuits – custard creams, chocolate digestives Yoghurts Anything that is going Fruit flavoured chews	Crisps Chocolate Biscuits – Bourbons Twix Dried fruits - apricots, dates Cereal bars Percy pigs (chewy fruity sweets) Yoghurts Prepared fruits such as pineapple Donuts Cookies Fruit
Group 7 (F, 13-14, Birmingham)	Group 8 (F, 15-16, Birmingham)
Crisps – Salt and vinegar, prawn cocktail Doritos – tangy cheese Monster munch Individual cakes Maryland cookies Cheese - strings, baby bel Fruit - Banana, Grapes, dipped in chocolate, Strawberries, Apples, Fruit from garden Crisps in cheese bread Bread and butter	Fruit – Apples, strawberries, grapes, oranges Crisps Chocolate Nutrigrain bar Chocolate raisins Sultanas/raisins Ice lolly Sweets-jelly sweets, jelly tots, bon bons Snackerjack Lollipops Yoghurt Sandwich /Toasties Snacking on meal as it is being prepared Biscuits Cookies –choc-chip Pringles Jaffa cakes

APPENDIX 4

IMPORTANT FACTORS INFLUENCING FOOD CHOICE WITH RANK TOTALS (ALL GROUPS)

All groups	Breakfast			Lunch			Dinner			Snack			Total
	1 st	2 nd	3 rd	1 st	2 nd	3 rd	1 st	2 nd	3 rd	1 st	2 nd	3 rd	
My parents	7	12	10	7	6	16	42.5	7	8	1	1	2	119.5
Friends	1	0	0	4	4	3	0.5	0	6	2	2	6	28.5
School	3	1	5.5	7	5	5	0	0	2	0	3	1	32.5
Taste	21	15	13	26	11	11	13	27	16	35	12	5	205
Health	6	9	7.5	3	9	6	4	15	10	6	6	7	88.5
Readily available	7	7	7	6	9	4	2	4	7	8	18	10	89
Easy to prepare	12	14	11	5	9	5	3	5	7	2	5	9	87
Price	1	1	0	4	10	8	0	0	1	2	1	5	33
Habit	5	7	8	3	6	8	0	6	6	2	7	9	67
Country of origin	0	0	0	0	0	0	0	0	1	0	0	0	1
Brand	0	1	4	1	0	0	0	2	1	1	6	6	22
Adverts	0	0	2	1	0	1	0	0	1	1	1	3	10
Diet	4	2	1	2	0	2	1	1	1	2	2	0	18
Medical reason	1	0	0	0	1	0	0	1	0	1	0	0	4
Other	1	0	0	2	0	1	2	0	0	1	0	0	7
Total	69	69	69	71	70	70	68	68	67	64	64	63	812

APPENDIX 5

PERCEPTION OF HEALTHY FOODS

Group 1 (M, 13-14, Manchester)	Group 2 (M, 15-16, Manchester)
Fruit and vegetables Pasta Anything with vitamins Fish Potato Everything in moderation Meat (white is better than red) Yogurt Dairy foods Eggs Cereal ?	Fruit and veg Eggs - not fried Carbohydrate Pure orange juice Water Lucozade - energy drinks Meat - depending on how cooked Potatoes Fish Cereal - but no sugar
Group 3 (F, 13-14, Manchester)	Group 4 (F, 15-16, Bristol)
Salad Fruit salad Vegetables Fruit Pasta Brown bread Proteins Carbohydrate Calcium Vitamins and minerals Oily fish (salmon, tuna, sardines) Fibre (branflakes, sweetcorn) Meat Cereal	Fruit and veg Muesli Nutrigrain Rice Pasta Salad Fish (without butter) Meat (without fat) Potato
Group 9 (M, 13-14, Bristol)	Group 10 (F, 15-16, Bristol)
Fruit and veg Pure orange juice Cheese (calcium) Vitamins Yogurt Rice pudding Cooked breakfast (without fat) Mushrooms Salads Jacket potatoes Fish Chicken Meat (but ? Fat) Spring rolls Vegetarian food Pasta Energy bars Lucozade Milk Water Most home made food	Fruit and Veg Dairy products / milk Everything' but not too much Fish Meat Vegetarian food Cereal Salad Cheese

Group 5 (M, 13-14, Birmingham)	Group 6 (M, 15-16, Birmingham)
Milk Fruit Cereal Bars Vegetables Salad Fruit drinks/Juices Things with nothing added, no chemicals No sugar added Fish – tuna Pasta Calcium Milk Vitamins Carbohydrates Fibre Meat Low salt Low fat Water Yakhult/Actimel drinks Non alcoholic drinks	Fruit – banana, apple (pink lady, granny smith), orange Vegetables Nuts Low fat Whole grain Meat Light Mayo Fruit juices Water
Group 7 (F, 13-14, Birmingham)	Group 8 (F, 15-16, Birmingham)
Fruit – apples, banana Cereal bars Cereal Special K Vegetables Meat Yoghurts Cheese	Fruit –apple Balanced diet Cereal bars Pasta Vegetables Nutrients Water Milk Fresh juice Smoothies Some cereals e.g. special K Yoghurt Dried fruit- raisins, apple Salad Chicken Fish

APPENDIX 6

PERCEPTION OF TRADITIONAL FOODS

Group 1 (M, 13-14, Manchester)	Group 2 (M, 15-16, Manchester)
Fish and chips Turkey/Christmas dinner Potato Yorkshire pudding Apples Pork Fried bread Sausage	Sunday dinner Curry Fish and chips
Group 3 (F, 13-14, Manchester)	Group 4 (F, 15-16, Bristol)
Roast dinner Fish and chips Chips and gravy Curry Full English breakfast Cup of tea Bacon butty	Roast dinner Fish and chips Steak and kidney pie Full English breakfast Curries Chinese Spaghetti bolognese Pizza Sausage and mash
Group 9 (M, 13-14, Bristol)	Group 10 (F, 15-16, Bristol)
Fish and chips Roast lunch Cooked breakfast Christmas dinner Pancakes Pumpkin stew Strawberries and cream Easter eggs Fish at the seaside	Fish and chips Roast dinner Full English Breakfast BLT Tea Strawberries and cream Clotted cream Devon toffee Cakes esp Christmas cake Shortbread Egg fried rice

Group 5 (M, 13-14, Birmingham)	Group 6 (M, 15-16, Birmingham)
Full English Breakfast Sunday dinner Bacon sarnie Sandwiches Sausage Cup of tea/coffee Meat- lamb Haggis Fish and chips Cadburys chocolate Cadburys the brand Bluebird toffee Kellogg's Frosties Lea and Perrins Worcestershire sauce HP sauce Yorkshire pudding Cereal bar	Cottage pie Roast potatoes Boiled egg and soldiers Sunday dinner Shepherds pie Fish and chips Bangers and mash Boiled sweets Full English breakfast Egg and sausage sandwich Beans on toast /Cheese on toast Toast Custard Puddings - Apple pie Spotted dick, Treacle sponge, Sticky toffee pudding, jelly, Bread and butter pudding, rice pudding Faggot and peas Steak Victoria sponge Scones Tea and biscuits –digestives, rich tea After Eight mints Chocolate orange
Group 7 (F, 13-14, Birmingham)	Group 8 (F, 15-16, Birmingham)
Yorkshire pudding Roast dinner Beer Whiskey Full English breakfast Ice-cream Crisps Cadburys chocolate Milk and cookies Hot chocolate	Fish and chips Toad in the hole Bangers and mash Sunday dinner Cup of tea Bacon sandwich Pheasant, Pigeon pie Fry up McDonalds Chicken Tikka Massala Jacket potatoes Mash potatoes and peas Fish fingers Processed food

APPENDIX 7

SOURCES OF INFORMATION

Group 1 (M, 13-14, Manchester)	Group 2 (M, 15-16, Manchester)
School Letters from school Food technology lessons McDonalds Shop adverts Jamie Oliver	TV programmes Food Technology lessons School Internet Biology lessons Word of mouth Jamie Oliver
Group 3 (F, 13-14, Manchester)	Group 4 (F, 15-16, Bristol)
Food technology/hygiene lessons TV Friends and family	None listed
Group 9 (M, 13-14, Bristol)	Group 10 (F, 15-16, Bristol)
Science magazines School posters Newspapers TV news Jamie Oliver Family Internet Food technology lessons Shops	Mum/ parents School TV
Group 5 (M, 13-14, Birmingham)	Group 6 (M, 15-16, Birmingham)
Labels Dad Supermarket Aunty knows points – weight watchers Mums book Common sense TV Internet	Common sense Media Adverts School –posters Trevor Mc Donald Jamie Oliver Mum Ronald McDonald Internet Rick Stein Hugh Fernley Whittingstall
Group 7 (F, 13-14, Birmingham)	Group 8 (F, 15-16, Birmingham)
School TV programmes, documentaries: Super size me You are what you eat Honey I'm killing the kids What's in your poo? Biggest loser Mum Hospitals – posters, signs Doctors Leaflets Posters at school News programs	Labels Internet – for research Books Magazines Posters TV adverts School Parents TV programmes: Super size me You are what you eat

APPENDIX 8

MEAT CONCEPTS




ME

Concept L



Traditional meat products with nutritional characteristics adapted to a healthy and modern way of eating

These adaptations could be fat reduction: low fat meat products that let the consumer enjoy the genuine flavour of the traditional products, as usual, but in a healthy way.

Another idea could be to add fibre for a more healthy product.

Other possibilities could be the adaptation of packaging e.g. meat products packed like popcorn for use as a snack.

Group 6

ME


Concept H

Fat free hamburger (1% fat)

The fat reduction in a traditional and universal meat product like hamburger, could be an excellent way to decrease the calorie intake of the adolescent population.

Low fat hamburger lets the consumer enjoy the genuine flavour of the traditional product, as usual, but in a healthy way.

Another idea could be to add fibre for a more healthy product.



ME

Concept EX

Cold meats with intensive flavour and odour enriched with fish protein and other natural ingredients

People are nowadays eating more modern and innovative types of cold meat products, often with more flavour giving a more pleasurable experience.

They are an alternative to the traditional cold meats thanks to their novelty, uniqueness, interesting flavours, and range of uses. As an example, a cold meat with crab, or exotic fruits like pineapple.

It fits perfectly with modern and adventurous consumers, who love trying new things and like new flavours and varieties.

Group 6

APPENDIX 9

MISCELLANEOUS CONCEPTS

MIS

Concept ZZ



Vitamineral tablet for fizzy drink

A fizzy vitamin and mineral drink every day will make you healthier.

The vitamineral tablet dissolves into a fizzy, tasty drink, which satisfies your daily need of vitamins and minerals.

The vitamins and minerals have different functions in the body. This tablet is developed together with nutritionists to get the best composition needed for a growing and active adolescent.

Group 8

MIS

Concept CW



Chewable Multivitamineral tablet

A tablet of vitamins and minerals every day will make you healthier.

The vitamins and minerals will help your body grow and resist infections.

The vitamins and minerals have different functions in the body. This tablet is developed together with nutritionists to get the best composition needed for a growing and active adolescent.

Group 8

MIS

Concept BR



Healthy snack bar

A tasty snack bar between meals will keep you alert and less hungry.

The ingredients in the healthy snack bar will satisfy your hunger and keep your body and brain active.

This bar is developed together with nutritionists, and contains more proteins and so called slow carbohydrates, which research has shown satisfies your hunger for a longer time.

Group 8

APPENDIX 10

CEREAL-BASED SNACK CONCEPTS

