![safefood logo]

Good days and bad days

Habits of shoppers when they do or don't buy healthy foods

Summary Report

be **safe** be **healthy** be **well**

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Acknowledgements

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1   Introduction

Why this research was carried out

Health is often cited as one of the many factors influencing product selection. How shoppers define health, and the ways in which they classify foods as healthy or unhealthy, can offer important insights into the decision-making process relating to foods and beverages (1). Current knowledge on the healthiness of shoppers' food selections has focused predominantly on the measurement of the nutritional content of products through the use of till receipt information. To date, there has been little focus on other aspects of shoppers' food selections, such as the rationale behind consumer purchases or the internal or external cues triggering consumer behaviour. Internal cues may include a shoppers' mood and knowledge, while external cues encompass shoppers' reactions to store atmospherics, product availability and the purpose for the shop (2). Such internal and external cues highlight that there are numerous factors related to a grocery shop that might impact upon food choice and its nutritional quality.

As food purchased in the supermarket contributes to a large proportion of the household diet, the supermarket has been identified as a key setting for public health interventions (3, 4). Consequently, the aim of this study is to examine perceptions of a "healthy shop" and to identify potential barriers to conducting a healthy shop.

2 Background to the research

To date, research has not specifically addressed the concept of a healthy shop. However, a new stream of research has established a link between grocery shopping and nutrition behaviour. As limited studies exist on how consumers translate their conception of health and their knowledge of healthy eating into their food purchases during a grocery shop, studies from marketing and grocery shopping, in addition to nutrition studies, were included to allow for as in-depth a review as possible. The inclusion criteria for this review considered consumers' in-store food purchasing habits and the role that diet and/or health played in influencing and shaping purchase decisions. Studies that were deemed relevant were segmented into three key categories:

1. Personal factors

2. Product factors

3. Store factors.

Personal shopping factors

The literature in this area was extensive and alluded to socio-demographic factors, socio-economic factors, shopping lists, time pressures and the influence of a shopping list. In general, it was found that the majority of shoppers carried a list, either physical or mental (5), while the use of a shopping list, in conjunction with meal planning, was associated with healthier intakes of fruit and vegetables (6). Quality, availability and convenience were also important determinants of fruit and vegetable consumption. It was found that unplanned and impulse purchases could be decreased through the use of a shopping list, as well as paying for groceries by cash and limiting the amount of time spent in the supermarket (7). Time pressures and pester power were linked with types of foods purchased, and store layout played a key role in meeting the needs of the time-stressed consumer (8, 9). Single parents were more likely to view shopping as a stressful activity and illustrated a tendency to shop primarily when food items in the house had run out or had gone past their use-by date. Therefore, these consumers were more likely to make emergency trips to the supermarket (10). It was found that females who carried out their shopping prior to meal time, consistently purchased more than those who

shopped after meal time (11). Consumers from higher socio-economic groups were more likely to perceive their eating habits as healthy, and were found to have the highest intake of fruit and vegetables and the lowest intake of foods containing fat and/or sugar and meat, fish and alternatives (12). Furthermore, females who were higher educated and non-working main meal planners generally perceived nutrition as more important in food shopping than other consumers (13). Lower socio-economic groups were less likely to make food purchasing choices consistent with dietary guidelines (14).

Product factors

It was found that pricing and promotional changes in one product category could affect the decision to purchase a product in related product categories (15). Results found that as packaging size increases, so does the volume of the product that a person uses. However, package size only influences the volume used when it is accompanied by a decreased cost per unit (16). The cost of various food products has a key influence on consumers purchasing behaviour. Healthier market baskets cost on average 17-19 per cent more than the standard basket (17). Consumers displayed an understanding of nutrition information but results showed that nutrition labelling did not have an effect on the use of product labels (18). However, motivations for food choice were positively associated with the purchase of products that displayed a nutritional logo and were associated with 'weight control' and 'product information' (19).

Store factors

Store characteristics impact upon shoppers' in-store emotions. Product assortments, product value and sales staff had the capability to induce positive or negative emotions in consumers (20). Results have shown that 51-59 per cent of in-store purchase decisions are unplanned and these unplanned decisions are most likely to occur when products are placed at the end of an aisle or at the till point (21). It was also found that large numbers of supermarkets were located in areas with a higher socio-economic profile and that the presence of these supermarkets was associated with a lower prevalence of overweight and obesity (22, 23). The availability of healthful products in-store was positively associated with the healthiness of individual diets.

3 Aims and objectives

This research sought to gain an understanding of the reasoning behind consumers' food choices and to explore the role of shopping practices/strategies that both promote and impede healthy shopping behaviour. The objectives were as follows:

1. To identify and classify situational factors influencing shopping decisions and strategies/shopping practices used for healthy shopping.
2. To conduct a qualitative exploration of the ways in which shoppers make choices in relation to purchasing food.
3. To investigate the relationships between consumers' personal, situational and behavioural factors (barriers and promoters) influencing healthy food shopping.
4. To make recommendations on strategies and practices for implementing healthy food shopping.

4 Overview of the study

The study was conducted via a mixed methods approach and used both qualitative and quantitative techniques (Figure 1). Qualitative techniques were incorporated to explore the phenomenon of 'healthy shopping' and to identify key concepts that would inform the second quantitative phase of the study. The three qualitative methods utilised in this study were: accompanied shop (AS); in-store task (IST) and a telephone interview (TI). The quantitative method incorporated into this research was a consumer survey.

Ethical approval

All procedures involving human subjects in this study were approved by the Research Ethics Committee within the School of Biological Sciences, Queens University Belfast (QUB) and written informed consent was obtained from all participants. In addition, permission to carry out shops where the researcher accompanied the participant was gained from five well-known supermarket chains. Permission from Head Office and the store managers was granted in each of the individual stores before the immediate study was conducted.

Recruitment

In February 2011, a total of 100 participants were recruited in two centres (Dublin and Belfast) on the island of Ireland for the qualitative section of the study (Appendix 1). Participants were recruited through a market research company, were provided with a letter explaining the study and were offered a monetary incentive upon completion of the study. Selected participants were the main grocery shopper in their household. For Method 1, just 50 participants were required, while Method 2 required the participants from Method 1 and an additional 50 participants (Figure 1). These methods consisted of five sub-tasks outlined below:
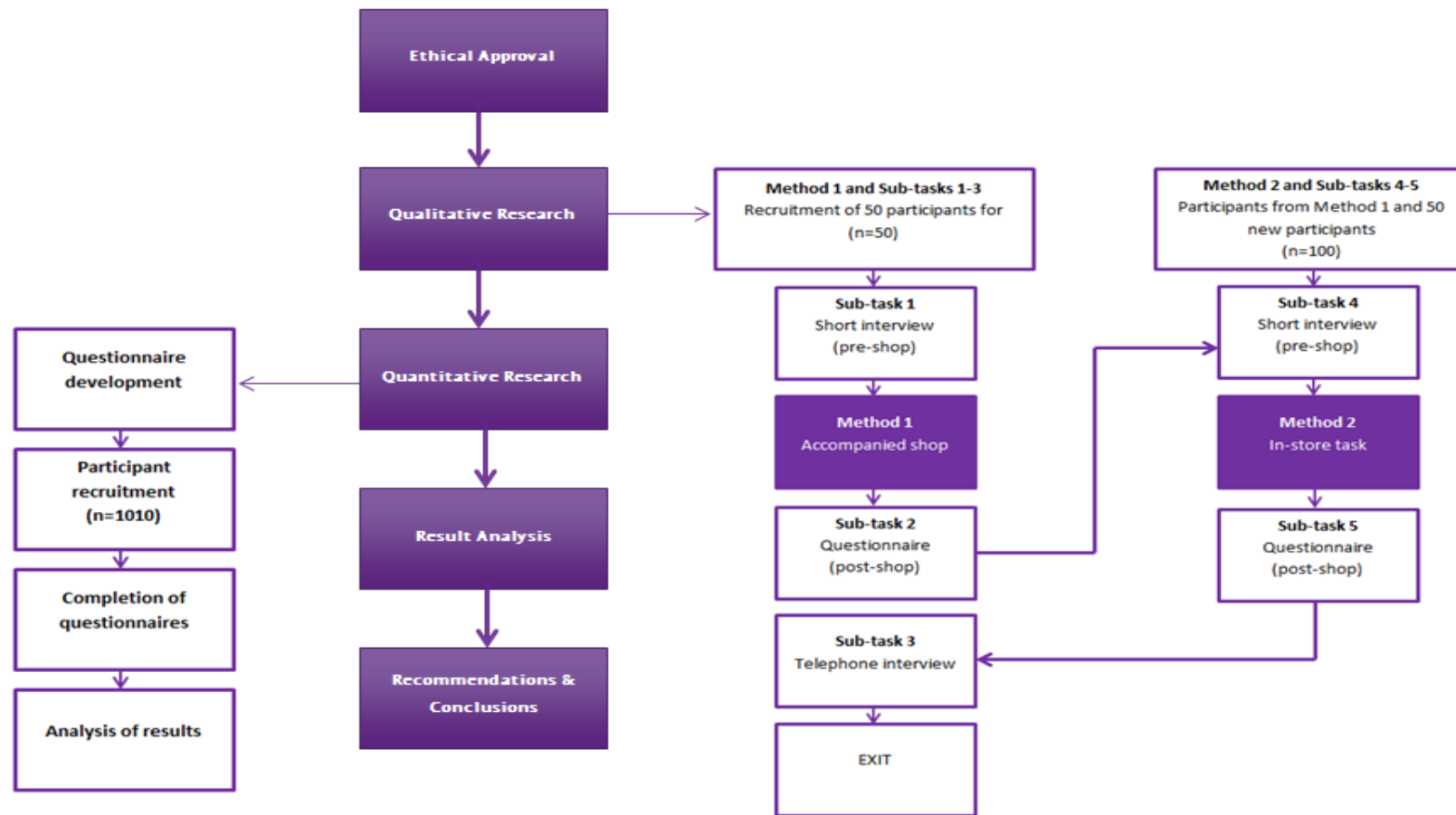
1. Sub-task 1 (AS): short interview pre-shop (5-10 minutes before shop began)
2. Sub-task 2 (AS): post-shop interview (immediately after the shop was completed)
3. Sub-task 3 (AS): telephone interview (within a two-week period after the shop was completed)
4. Sub-task 4 (IST): short mood questionnaire pre-shop (5-10 minutes before shop began)

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5. Sub-task 5 (IST): post-shop interview on the same day (immediately after the shop was completed).

Perceived level of health consciousness was assessed through a screening questionnaire which used four items from the General Health Interest Scale (24). Participants scoring 16 or more were classified as High Health Conscious (HHC) and participants scoring 12 or under were classified as Low Health Conscious (LHC). For Method 1, it was found that 30 participants were classified as HHC and 20 as LHC, while for Method 2, 56 participants were classified as HHC and 44 as LHC.

The final section of the study consisted of a consumer survey and was quantitative in nature. The survey was designed to measure different patterns of knowledge, attitudes, motivations and lifestyles on the IOI and was informed by the qualitative section of the study. Data was collected through 1,010 face-to-face interviews (NI = 297; ROI = 713) between October and December 2011, using hand-held, computer-aided personal interview devices (HAPI), and no incentive was offered.

Figure 1 Methodology employed for the study

Ethical Approval

Qualitative Research

Quantitative Research

Result Analysis

Recommendations & Conclusions

Questionnaire development

Participant recruitment (n=1010)

Completion of questionnaires

Analysis of results

Method 1 and Sub-tasks 1-3
Recruitment of 50 participants for (n=50)

Sub-task 1
Short interview (pre-shop)

Method 1
Accompanied shop

Sub-task 2
Questionnaire (post-shop)

Sub-task 3
Telephone interview

EXIT

Method 2 and Sub-tasks 4-5
Participants from Method 1 and 50 new participants (n=100)

Sub-task 4
Short interview (pre-shop)

Method 2
In-store task

Sub-task 5
Questionnaire (post-shop)

5   Findings

A hybrid approach was used in the analysis of the data incorporating an apriori template of codes (25) and codes generated inductively from the data (26). This approach allowed existing beliefs associated with shopping behaviour to form an integral part of the process of analysis, while also allowing for themes to emerge from the data. The qualitative findings are presented under five main themes:

1. Good days and bad days;
2. Identification of the influences on healthy shopping behaviour;
3. Healthy grocery shopping – perceptions and barriers;
4. Healthy grocery shopping – how people talk about health during a shop;
5. In-store task experimental study.

Good days and bad days

Factors influencing a good/bad shop

Planning ahead was identified as fundamental to a good shop. Purchasing of sufficient good quality food items for the week ahead and ensuring enough food was purchased to prepare meals was believed to contribute to a good shopping day. The purchase of too few items to prepare meals was perceived as a bad shop. Purchasing healthy foods was considered by several respondents as a good shop. High health-conscious respondents had a greater tendency to associate a bad shopping day with the purchase of numerous unhealthy items. Participants were also price-conscious throughout their shop and good shopping days were ones where budgets were adhered too, savings were made and promotions were available. A lack of special offers in-store and spending more money than intended was perceived by a number of respondents to contribute to a bad shop. However, promotions that led to increased purchases and consequent food waste also contributed to bad shops. The type of service received in the store also impacted upon respondents' ideas of good and bad shops. Good customer rapport, spacious aisles with a logical layout, stock availability, attractive merchandising and cleanliness were factors underpinning a good shop. Queuing was believed to contribute to a bad shop.

The only things that would make it a bad shop would be my own mistakes (TI, F, HHC, ROI).

Factors influencing a good and bad eating day

For the majority of participants, three meals per day were associated with good eating days. However, due to time pressures associated with family and work, respondents indicated that this was not always possible during the week. These respondents viewed weekends as an opportunity to have good eating days. Some participants associated Fridays or the weekends with bad eating days, as treat foods were consumed more regularly. Increased time pressures affected a respondent's ability to shop, plan, prepare and consume foods, and therefore influenced the number of bad eating days.

Breakfast was regarded as the most important meal of the day and most participants had good eating days when they consumed foods prepared at home. Missing meals, in particular breakfast, failure to bring a packed lunch to work, mindless snacking and consumption of certain foods that were high in sugar and fat were associated with bad eating days. Making time to prepare home-cooked meals and availability of fresh produce and a wide range of stock in the home made for a good eating day. Catering to differing family preferences, eating out, ordering take-aways and hosting visitors were occasions where participants experienced bad eating days. Participants highlighted several practices or rules which they tried to adhere to, so as to achieve good eating days. Such rules included: achieving a balanced consumption of a variety of foods; eating at least five portions of fruit or vegetables a day; ensuring dinner included a portion of vegetables; ensuring the dinner plate contained a green vegetable; drinking two litres of water per day; or consuming the recommended number of calories.

For lunch sometimes, if I'm busy I'd grab a burger or something on the way for lunch. I have something like chocolate or confectionary later. That would be a bad day...(TI, MM HHC, ROI).

Identifying strategies to prevent a bad shopping and/or eating day

To identify perceived strategies to prevent a bad shopping or bad eating day, respondents were asked three questions: how could you turn a bad shopping day into a good eating day; what would turn a good shopping day into a bad eating day; and how would you prevent a bad shopping day turning into a bad eating day.

Table 1 Perceived strategies for good shopping and eating days

Perceived strategies for a good shopping day	Perceived strategies for a good eating day
1. Do not go shopping on an empty stomach 2. Have a budget in mind 3. Plan a weekly menu 4. Make a shopping list 5. Get in the zone by shopping alone 6. Keep stock of what you have got 7. Pass up on promotional offers 8. Avoid certain aisles	1. Avoid processed foods 2. Be a creative cook 3. Out of sight, out of mind – having secret stashes

Identification of the influences on healthy shopping behaviour

The majority of participants had a shopping routine which involved a weekly or monthly shop on a certain day, at a certain time and in a specific store. Although the majority of participants were more likely to shop at a retailer close to where they lived or worked, female participants frequently visited a number of stores during the week to achieve the best value for money. Furthermore, participants tended to buy specific products for specific days, for example more luxury items on Fridays. The primary influences on healthy shopping behaviour can be classified into the three main categories of personal influences, product influences and store influences.

Personal influences

It was found that participants purchased certain items specifically for their perceived health benefits or for medicinal purposes. For example, functional products such as stanol-rich foods were mentioned in relation to cholesterol levels, while increased fruit and vegetables and healthier snacks were included for an overall healthier diet. Participants who were selecting products for those with intolerances, often opted for products in the 'free-from' ranges.

Emotions, family preferences and social activities also impacted upon healthy product selection. Stress was identified as a significant factor in the motivation to purchase and pay a premium for convenient meals. However, certain convenient meals such as ready meals and instant noodles were perceived as bad for health and, therefore, resulted in only occasional purchase. In making healthy product decisions, participants looked for certain clues on product packaging, such as whether the

product was high in calories, salt and/or in fat; whether it helped lower cholesterol; or was low in sugar. Only a few HHC participants examined the full nutritional label to inform their product choice. Participants distinguished between healthy and unhealthy food items but they were unsure about linking healthy foods to specific health benefits. They felt that treat items were justified in their shop if they were bought in conjunction with healthier items. However, parents had difficulty determining what foods were considered to be good and bad and in turn acceptable for children's school lunch boxes. Parents who sought to make healthy selections for their children, were more likely to buy a lot of fruit products such as smoothies and yoghurts, pre-packed sliced fruit, fruit-flavoured cereal bars and dried fruit.

Product influences

Convenience was an important factor underpinning the vast majority of food selections. Pre-prepared foods such as frozen foods, jarred and bottled sauces and ready-to-eat (RTE) foods were seen as attractive options, as they liberated participants from the kitchen, yet still offered the participant the feeling they had produced the meal from scratch and a sense of accomplishment. In addition, some vegetables, particularly those which were pre-packed or pre-cooked, were regarded as a convenient healthy addition to a meal. Low fat, diet and light products were popular with consumers and represented habitual purchases in the dairy category. This was also true for snack products. Food items labelled as 'healthy' impacted upon consumers' willingness to purchase. The majority of consumers had good confidence levels in relation to cheese, yoghurts, rashers and milk that claimed to be low fat, reduced salt or fortified with vitamins or minerals. However, a number of participants expressed concerns over ambiguity of products labelled as 'healthy' due to misleading advertising and mistrust in claims.

> I tried low fat crisps before, they say they're only 83 calories so that makes me feel better about eating them

Time was a significant factor that affected the types of products purchased during the shop. The majority of consumers indicated that healthier choices could be made if extra time was taken to read labels. Consumers indicated that understanding nutritional information and the nutritional quality of products was confusing, daunting and time-consuming. It often resulted in avoidance of a product or an ill-informed choice, which resulted in the consumer feeling annoyed.

Price was one of the most significant factors influencing product selections. As a result of economic recession, participants observed that their attitudes and value towards foods had changed, with cheaper products becoming standard purchases regardless of preference. However, some HHC participants noted that they were willing to pay extra if they perceived the product to have extra health benefits (e.g. lower in fat).

Store influences

The shopping environment played an influential role in shaping product selection. The majority of participants tended to go to the same store each week, as the layout was familiar to them and shopping could be done more conveniently. In addition, a number of participants indicated they avoided certain aisles to prevent possible unhealthy purchases. It was clear that the use of a list assisted the shopper in knowing what to buy, however, lists that were not organised into product categories related to each aisle in the store, resulted in the shoppers appearing more stressed as they moved between and revisited aisles. Those who worked from a mental list tended to methodologically browse through the aisles, using the aisle as an aide memoire to remember what items they required. Promotional offers tended to be high processed foods, sweets and snack items and had a strong influence over participants. Most participants impulsively decided to purchase a promotional offer after perusing the aisle. This resulted in participants spending more than they had initially intended. Participants justified their unhealthy choices by highlighting any savings made. However, certain promotions allowed shoppers to mix and match items within a category for a set price. Such promotions were found for fruit and veg and for a variety of products that would make up a breakfast or dinner bundle. These bundles helped to simplify the decision-making process in-store. Participants were also able to outline a number of disadvantages related to promotional offers. For example, offers tended to be on unhealthy products, and smaller families experienced difficulty in consuming the large quantities on offer. This resulted in a feeling of frustration and an increased level of caution towards promotions for certain participants.

Product availability and assortment of merchandise had a considerable influence on participants' behaviour. Poor availability of fresh produce in the evening/late opening hours and lack of individually sold fruit and vegetables acted as a disincentive for those living in one-person households.

Healthy grocery shopping – perceptions and barriers

This section of the report identifies how individuals perceived the healthiness of their grocery shop and the barriers associated with conducting a healthy shop. The information in this section is based on the AS post-shop interview and the in-depth telephone interview.

Perceptions of a healthy shop

It was found that 42 per cent of participants viewed their shop to be healthy. Participants considered a healthy shop to be one which: included healthy foods; avoided or excluded particular food groups; restricted the quantity of certain food groups or achieved a balance between healthy and unhealthy foods. The majority of participants believed that the inclusion of fruit and/or vegetables, fresh or natural products constituted a healthy shop. A number of participants also believed that the inclusion of fresh or chilled products instead of frozen and processed foods improved the healthiness of their shop. The majority of participants highlighted that avoidance of purchasing certain foods, such as high sugar and high fat snacks, contributed to the healthiness of their shop. A few participants discussed how limiting the frequency of purchasing less healthy foods contributed to a balanced diet. Products that were limited and not consumed on a regular basis were sausages, chip, biscuits, pizza and crisps. A few participants involved in diet programmes were mindful of specific restrictions advised by these programmes. For the majority of participants, healthiness was perceived as *"a balanced approach"*. Most participants discussed the need to balance less healthy items with more nutritious foods.

> Seafood, dairy foods, orange juice, wholegrain/brown breads contributed to the healthiness

Perceived barriers to healthy shopping

A number of participants claimed they had difficulty with skills required for meal planning, managing a food budget and knowing how to cook for the household. The main barriers discussed are outlined below.

Shopping list:	The majority of shoppers in this task did not use a shopping list, however, a number of the shoppers did have a mental list or did know what they wanted to purchase. When asked how the healthiness of their shop could be improved, the majority of participants indicated that a shopping list would have improved their healthy food choices. It was also found that shoppers without a shopping list (physical or mental) were more likely to let their mood dictate their purchases.
Cost:	Cost was also identified as a barrier to achieving a healthy shop by the majority of participants. Foods perceived as healthy were considered more expensive than less healthy choices and participants claimed to lack the skills needed to prepare healthy meals and snacks within a specified budget.
Cooking skills:	It was found that participants who lacked cooking skills or confidence required to make healthy meals or try new recipes, were more likely to opt for the convenient option. Boredom with the same healthy meal was expressed as a reason for choosing more convenient and less healthy options. Parents also alluded to the increased level of difficulty associated with preparing or choosing a healthy meal that appealed to all family members and indicated that convenient and less healthy choices made it easier to prepare foods and please all family members.
Knowing what constitutes a healthy shop	A few participants indicated that they lacked the ability to translate their existing knowledge of healthy eating into healthy purchases. A number of participants discussed how they found it difficult to identify whether a food marketed as 'healthy' had actual health credentials. Deciphering between healthy and less healthy foods was made increasingly difficult by confusing food labels.
Mood:	Mood was found to have an effect on the healthiness of a shop, depending on the type of day experienced by the participant (e.g. a stressful day at work). Several emotional factors including: laziness, tiredness, illness and hunger contributed to unhealthy shopping practices. Participants discussed how certain emotions would lead to a craving for certain unhealthy foods. Furthermore, a substantial number of participants found that if they shopped when they were hungry, they were more likely to buy less healthy foods.
Social circumstances	Eating outside the home was associated with less healthy choices. In addition, if a participant was expecting to entertain guests, food was perceived to be a source of pleasure and health was not a primary consideration

Healthy grocery shopping – how people talk about health during a shop

In this section, comparisons were made between the frequency of actual and implied mentions of terms regarding and implying health between high health conscious (HHC) and low health conscious (LHC) participants; between male and female participants; and between socio-economic groups. Five key themes were also derived from the discourse and are discussed below.

- HHC versus LHC
  - HHC participants were more likely than LHC shoppers to talk about health, both in the direct sense of the word and through implication during their shop, 1.57 and 6.3 mean mentions compared to 0.9 and 2.35 mean mentions respectively. The difference in total mentions and implied mentions of health were found to be significant but the difference between actual mentions was not.

- Male versus female
  - Female shoppers (n=24) mentioned total health 186 time while in-store, with male (n=26) mentioning health on 115 occasions. Moreover, females spoke about actual and implied health more often than males, 1.67 and 6.08 mean mentions compared to 1.04 and 3.46 mentions respectively. Again, the difference between total and implied mentions was found to be significant but the difference between actual mentions was not.

- Middle class versus working class versus lower middle class
  - Overall, it was found that middle classes (Class A and B) shoppers (n=16) spoke about health most often, with 6.87 mean mentions per shopper. Lower middle class (Class C1) and working class (Classes C2,D and E) shoppers spoke about and alluded to health 99 and 92 times, with mean responses 5.5 and 5.75 respectively. Working class shoppers spoke more often about health (actual and implied), with 1.63 and 4.13 mean responses compared to lower middle class shoppers with 1.4 and 4.06 mean responses. However, these differences were not significant.

A thematic analysis identified five key themes which represented shoppers' discourse regarding health: (1) concern for others; (2) self-control over food purchase; (3) personal constraints; (4) perceived knowledge; (5) mindset and mannerisms.

(1) Concern for others

Concern for the wellbeing of others was dominant, as many shoppers seemed to have the role of gatekeeper or caregiver within the household. As a result, products selected (health or unhealthy) were not always related to the shopper's personal preference. Healthful foods were often purchased with children or partners in mind. Many parents considered the risk/benefit paradigm of choosing perceived overall less healthy food products fortified with wholesome grains, vitamins and minerals, to ensure consumption of vital food groups and nutrients. In addition to considering the needs of the household, shoppers were also mindful of guests. This was rarely an opportunity to be healthy and frequently shoppers chose treat items or luxury foods for these occasions.

(2) Self-control in relation to food choice

Health was referred to in relation to a participant's ability or inability to exhibit self-control over the foods they selected. It was noted that, due to a lack of self-control, certain food groups, products or entire aisles were avoided, in an attempt to resist the temptation to purchase "bad" foods. However, it was standard practice to permit these items if they were purchased as "treat" items. Another technique used by consumers to avoid "bad" foods was to purchase healthier alternatives, while avoiding their unhealthy counterparts.

> The kids drink it [flavoured milk]…it might be full of sugar, but at least they are drinking milk…

The purchase of a surrogate item made the shopper feel like they were undertaking healthy behaviours, while also allowing them to feel like they had not been hard done by.

(3) Personal constraints

Time constraints were mentioned as reasons for the selection and purchase of 'unhealthy' products in-store. Additionally, shoppers noted that unhealthy or treat foods were consistently on promotion and therefore played a role in tempting shoppers to consume foods they would rather avoid.

(4) Perceived knowledge

During their shops, participants directly referenced or inferred health when noting the nutritional benefits of foods. Participants would usually acknowledge nutrition in terms of the calorie, fat or nutrient content of a product. Knowledge was subdivided into two coding

categories. The first category, 'perceived knowledge', was used when participants could distinguish between good and bad, healthy and unhealthy products, but failed to expand on the mechanism that inferred these properties. The second category, 'actual knowledge', was used when participants mentioned a principle or product with reference to a 'health' outcome. Super foods were references as a group of foods with superior health properties. In addition, understanding the nutritional composition of foods and choosing a product based on this information was common practice to several participants. Decisions to purchase were habitually determined through this approach. However, on occasion participants overlooked their knowledge to purchase a food they were aware was unhealthy. The reluctance to engage with knowledge at a personal level was occasionally due to a time or monetary constraint, where the desire or need for a certain food was greater than their judgement or action.

(5) Mindset and mannerisms

Participants often attributed health references or inferences to their behaviours, habits and 'rules of thumb'. Habitual food choices were frequently low in fat or reduced salt and sugar items. Many participants remarked that they had confidence in products that claimed to be low fat, reduced salt or sugar, or fortified with vitamins and minerals. However, there was some ambiguity surrounding products marketed as healthy, as a number of participants mistrusted the claims made on the product packaging. Again, on occasion, shoppers purchased foods as they were favourites, regardless if the item was perceived as health or unhealthy. However, frequently a shopper's preferred choice was a low fat, low calorie or organic item, selected not only for its sensory attributes but because it made people feel good, inside and out. Almost all participants mentioned health in relation to branding, at some point throughout their shop. The purchase of certain brands was habitual for most, with specific brands perceived as healthier than others. The Weight Watchers brand was repeatedly recognised as one that was trusted to be low in calories and low in fat.

Conclusion

These findings highlight contrasts in how people of differing health consciousness, gender and socio-economic status consider health, in relation to their grocery shop. Some expected outcomes were generated, for example, females mentioned health more frequently than males and HHC conscious shoppers mentioned health more often the LHC shoppers. The nature of peoples' discourse regarding health while grocery shopping was also explored. Concern for others, in addition to control over food purchases and perceived knowledge, were dominant themes which appeared to influence and motivate a person's grocery shop.

In-store task (IST) experimental study

In this section, specific research objectives related to insights from the IST are discussed. All participants, regardless of whether they were HHC or LHC, were asked to undertake either a healthy shop or a normal shop. The demographics of the participants are outlined in Table 2 below. The objectives of this task were:

(1) To investigate participants' decision-making when placed under shopping time (15 minutes), budget (€15 or £20), cooking time (30 minutes) and meal type constraints.

(2) To examine participants' purchase selections when placed under the above constraints.

Table 2 Demographics of IST participants

Demographic characteristic	Total sample	Scenario 1 - HM	Scenario 2 - M	Scenario 3 - HM	Scenario 4 – M
Level of Health Consciousness		HHC	HHC	LHC	LHC
HHC	**56%**	28%	28%	-	-
LHC	**44%**	-	-	22%	22%
Gender					
Female	**49%**	20%	17%	3%	9%
Male	**51%**	8%	11%	19%	13%
Marital Status					
Married or living with partner	**55%**	20%	17%	9%	%
Single	**35%**	7%	7%	11%	10%
Widowed, divorced or separated	**10%**	1%	4%	2%	3%
Age group					
18-25	**3%**	-	-	1%	2%
26-35	**48%**	10%	10%	16%	12%
36-45	**26%**	9%	10%	2%	5%
46-55	**14%**	7%	5%	1%	1%
55-65	**6%**	-	2%	2%	2%
65+	**3%**	2%	1%	-	-
SES class					
A,B,C1	**64%**	23%	16%	13%	12%
C2,D,E	**36%**	5%	12%	9%	10%

Objective 1

To investigate participants' decision-making when placed under shopping time, budget, cooking time and meal type constraints.

- Qualitative data was collected using the 'think aloud' technique for 50 participants and the post-shop interviews for all 100 participants.
- Quantitative data was also collected to assess expenditure using till receipt information.
- A short survey was completed where four measures (hunger, happiness, relaxation and energy levels) were used to determine if there were any changes in participants' mood pre/post-shop.

Constraint 1: Budget

Participants were each given a specified budget of £15/€20 and were asked to shop for two people. All currency was converted into GBP (£). To achieve value for money, some participants chose to put back items that they felt were expensive (e.g. fruit) and trade down on meat, instead of buying cheaper cuts. A number of participants discussed how few items were available in small quantities, therefore forcing them to purchase more than they needed for two people and increasing participants' concern over product waste. Although the majority of participants tried to keep an account of their money as they were spending, 27 per cent went over budget and were asked to return items from their baskets. Dessert items were the most frequently returned product type in this instance. At the end of the task, approximately half of the participants were content with their purchases, while the remainder of participants would have included luxury items such as desserts, wine and certain fruits.

Constraint 2: Shopping time

Each participant was successful in completing their shop within the allocated 15 minute time frame. Many shoppers felt under pressure during the shop, however, when asked if extra time would have allowed them to do anything different, the majority of participants said no. A small number of participants admitted they would have spent extra time to consider their purchases and look for promotional offers.

Constraint 3: Cooking time

Each participant was asked to purchase items for a meal that could be cooked with a time-frame of 30 minutes. Approximately half of the participants stated that if they had more time they would have purchased different items that would have contributed to a more elaborate or traditional meal. The remaining participants were happy with the items they purchased and the allocated cooking time, as it reflected more real-life experiences.

The effect of priming: Health meal versus normal meal

Half of the sample was asked to buy items to make a healthy meal while the remainder of the sample were asked to buy a normal meal. Results showed that participants chose a range of 10 different meals across all four shopping scenarios (Table 3), with the traditional meat/fish and vegetable the most popular choice for both the health and normal meal choices. The timing constraints meant that the majority of participants chose meals that were familiar to them as they were quick and easy to prepare. A number of participants stated that limitations in cooking skills impacted upon the types of food and/or meals they could make and therefore, these participants sought to buy simple foods for meals that would not confuse them or make them feel inadequate. However, when participants were asked to evaluate their cooking ability, the majority indicated they had good or excellent cooking skills.

Table 3 Meal choice against shopping scenarios

	Scenario 1 HM	Scenario 2 M	Scenario 3 HM	Scenario 4 M	Total
Level of Health Consciousness	HHC	HHC	LHC	LHC	
Meal Choice					
Meat and veg	12	9	7	7	35
Spaghetti bolognese	1	6	4	2	13
Pasta and sauce/bake	2	3	4	4	13
Stirfry	6	1	2	0	9
Fajitas	1	0	2	4	7
Curry	1	5	0	1	7
Salad	2	2	2	1	7
Home meal replacement e.g. pizza/lasagne	0	0	1	3	4
Vegetarian	2	1	0	0	3
Sandwich	1	1	0	0	2

Objective 2

To examine the participants' purchase selections when placed under the three constraints.

Upon completion of each shop, the supermarket till receipt was collected from the participants and photographs of the products were taken. A database of all the food items was created and products were divided into 12 food groups (Table 4).

Table 4 Food groupings for item classification

Food group	Example items
Vegetables	Peppers, onions, cauliflower, mushrooms
Starches	Potatoes, chips
Fruits	Tomatoes, grapes, bananas
Grains	Bread, pasta, rice
Dairy	Yoghurts, butter, cheese, dairy ice cream, eggs
Composite meals	Lasagne, pies, pre-made soup
Meat products	Pork, chicken, mince beef
Sweets/desserts	Trifle, chocolate, cheesecake
Beverages	Wine, juice, water
Sauces	Bolognese sauce, pasta sauce
Fats and spreads	Olive oil
Fish	Salmon, mussels, tuna

Vegetables were the most frequently purchased item, as approximately three vegetable items were purchased per basket. Meat and meat products, particularly chicken, steak and minced meat, were next, while fish and fish products were among the lowest food groups purchased. In addition, HHC participants were likely to cook from scratch and purchase more vegetables and fish than LHC participants. A considerable number of LHC participants relied on convenience foods such as dinner kits, ready meals and salad dressings and dips. Overall, a heavy reliance on the purchase of jarred and bottle sauces was evident for both groups. The majority of participants also chose to purchase items which would make two or three courses. Approximately 60 per cent of participants chose to buy items for a dessert, as well as a main meal. Those participants asked to make a healthy meal struggled to find healthy dessert options.

Conclusion

The findings suggest that shopping decisions differed when participants were under time and budget constraints. The need to make speedy purchase decisions meant less time was spent browsing promotional offers. In addition, the presence of time constraints encouraged consumers to recall recipes/meals that were familiar to them, as well as choosing certain types and cuts of meat that were quick to cook. Finally, those classified as HHC purchased more vegetables and fish than those classified as LHC. It is clear that shoppers employ certain shopping strategies when completing shopping tasks under constraints.

Results: Survey

Introduction

Food purchasing behaviour and the consumption of a wide variety of nutritious foods, fruits and vegetables has been a key focus of many health promoters and educators. Despite this, very few studies have looked at the relationship between demographic characteristics, attitudes towards health, shopping practices and healthy shopping behaviour; factors identified as influencing healthy eating and eating behaviour (12, 27-29). Participants' healthy shopping behaviour was measured based on Turrell's (2009) questionnaire and included 16 foods, for example, bread (white/brown), rice (white/brown), fruit juice, milk, cheese, yoghurt, beef mince, chicken breast, fruit and vegetables, for which a regular version and a recommended version were offered as options (30). The classification of regular and recommended food followed the UK and Ireland dietary guidelines, where the dietary authorities recommend that people purchase and consume a variety of foods that are relatively high in fibre and low in fat, salt and sugar (Department of Health UK, 2012; Department of Health ROI, 2012). This study aimed to investigate the influence of individual characteristics and shopping practices on people's healthy shopping behaviour.

Results

Factor analysis was the technique employed to identify significant influences on shopping behaviour. It was performed on 46 items and resulted in a final selection of 31 items that loaded under eight shopping practices (Table 5). Pearson's correlation, T-tests and Anova were also employed to highlight any significant relationships between factors.

It was found that *Quality filtering* and *familiarity seeking* were endorsed as the most frequently used shopping practices. Any evident correlations between shopping practices were small to moderate, with associations between mood filtering, price filtering and convenience seeking being the highest.

Table 5 Factor analysis from consumer survey

Practices (No. of items)	Items	Reliability (alpha)	Mean (sd)
Quality filtering (3)	Choose the freshest foods Choose the healthiest foods Buy items that are healthy for my family	0.75	4.12 0.73
Label filtering (4)	Look at nutrition information Look at the ingredient list Look at the country of origin Chose ethically-produced products	0.71	2.83 0.89
Familiarity seeking (3)	Stick with trusted brands Stick with familiar brands Stick with the same products	0.70	3.89 0.66
Price filtering (4)	Look for the lowest possible prices Look for special offers Go to the cheapest supermarket Budget a certain amount of money for food shopping Buy the shops own brand	0.67	3.39 0.66
Convenience seeking (6)	Choose the most convenient foods Buy food that is easy to cook Like to buy ready meals Like to buy products that are quick to prepare Like to make a meal from scratch (-ve) Like to buy celebrity endorsed brands	0.70	2.46 0.63
Mood filtering (3)	Buy foods depending on how stressed I am Buy foods depending on how hungry I am Buy foods depending on the mood I am in	0.76	3.23 0.59
Novelty seeking (5)	Like to try new foods Like to buy products I haven't tried before Buy items that friends have asked for Buy items on promotion I wasn't planning to buy Look for inspiration as I shop the aisles	0.65	2.95 0.63
Family pleasing (2)	Buy items family have asked for Buy items that wins my family's praise	R=0.47	3.37 1.06

The analysis identified that gender and social class had a significant effect on the purchase of recommended food, with women buying more recommended food than men, and higher social class participants (A,B,C1) buying more recommended food compared to those in the lower social classes.

When nutritional knowledge and level of health consciousness was added to the model, the results indicated that these factors explained recommended buying behaviour more than demographic data alone. Results showed that those who were more health conscious and had a higher level of nutritional knowledge purchased more recommended foods.

When shopping practices were added to the model, the results showed that quality filtering, label filtering, family pleasing, mood filtering (not influenced by their mood state at the time of the shop) and novelty filtering significantly predicted the purchase of recommended foods. Results also showed that shopping practices such as familiarity seeking, price filtering and convenience seeking were not predicators of recommended food buying.

The T-test results also indicated that there were some significant differences between participants from Northern Ireland (NI) and the Republic of Ireland (ROI) on individual factors, such as level of health consciousness and nutrition knowledge (Table 6). Participants from the ROI were more health conscious than participants from NI. However, NI participants had a higher nutrition knowledge score than those from the ROI.

Table 6 T-test results from consumer survey

	Total (N=1010)	ROI (n=713)	NI (n=297)	Sig.
Individual measures				
Health consciousness	5.07	5.18	4.81	P<0.001
Nutrition knowledge	4.87	4.73	5.21	P<0.001
Shopping practices				
Quality	4.12	4.21	3.93	P<0.001
Label	2.83	2.90	2.68	P<0.001
Familiarity	3.89	3.96	3.73	P<0.001
Price	3.39	3.43	3.28	P<0.05
Convenience	2.46	2.46	2.47	ns
Mood	3.23	3.28	3.09	P<0.01
Novelty	2.95	2.97	2.90	ns
Family	3.37	3.40	3.31	ns

Finally, the Anova results found that there were no differences between men and women in any of the shopping practices. However, social class and age had an effect on some of the practices. Results showed that those in the high social class engaged in quality and label filtering significantly more than those in the lower social class. In addition, lower social class participants used price filtering more frequently than those in higher social class.

Conclusion

The study showed that gender, social class, health consciousness, nutrition knowledge and shopping practices, such as quality seeking, label filtering, novelty seeking and family pleasing, influence healthy grocery shopping behaviour.

One of the shopping practices used by consumers, such as novelty seeking, was shown to encourage the purchase of more recommended foods. Encouraging novelty seeking as a practice and not always purchasing familiar foods has implications for the food industry. Formulating new products that are healthy and convenient at a reasonable price with clear labelling could be of enormous benefit to consumers. This would contribute to their healthy buying behaviour and also gives greater opportunities to industry to develop new functional and other healthy options.

Consumers need to be made aware of how negative moods and physiological status, such as hunger, can affect their healthy buying behaviour, and possible steps that could be taken to avoid the negative influence of mood suggested. In addition, the effect of positive moods on healthy purchase behaviour needs to be investigated. Label use was identified as a positive influence on healthy buying behaviour. However, consumers find reading labels time-consuming and confusing. Thus, a unified, simplified, labelling system should be implemented and consumers skilled on how to read them. In addition, shopping in a negative mood or when hungry had a negative impact on healthy buying behaviour.

The results highlight different communication opportunities that can be exploited by *safefood* to promote healthy eating behaviour to consumers. It also identified prospects for the food industry to promote novel, functional and other healthful foods.

6 Discussion and key findings

This comprehensive programme of research was conducted to better understand the habits of shoppers and to determine when they do and don't buy healthful foods. The outcome of the literature review indicated that personal or individual factors, product factors and store factors all play a significant role in contributing to the healthfulness of a shop. However, to date, only a limited number of studies have explored the concept of health within the context of a grocery shop, making this a timely and relevant project.

Perceptions of and barriers to a healthy shop

Perceptions of a healthy shop were based upon the inclusion of healthful foods; avoidance/restriction of particular food types, limiting quantities of certain food types and a balance between healthful and less healthful foods. Shoppers focus more on the healthiness of a particular food item and less on its contribution to a meal or the diet as a whole. Lack of skills in time management, budgeting, planning and cooking, as well as mood at the time of the shop and social circumstances, act as barriers to healthy eating.

How do people talk about health while shopping?

Health in relation to food shopping was discussed through four themes: concern for others, self-control, perceived knowledge, and mind-set and mannerisms.

Table 7 Health themes related to food shopping

Theme	Description
Concern for others	Health was a prominent consideration with regards to the needs and preferences of other. Parents frequently based their purchase decision around their child's wants and needs. In addition, a number of male shoppers purchased healthier foods for their partners, but often ended up consuming these foods as well.
Self-control	Avoidance of foods perceived as unhealthy, such as chocolate, biscuits and cakes was common. It was found that refraining from purchase was believed to be the best method of preventing over-indulgence. Some participants permitted the selection of perceived "treats" at the weekend or because they were expecting visitors.
Perceived knowledge	Some participants referred to the use of food as medicine during their shop. Foods were selected to assist with disease avoidance or control. Shoppers frequently measured their health knowledge against more perceived pressing considerations, such as convenience, taste, personal preferences and others' prefernces. Participants were aware of the healthful choice but faced with other priorities, other priorities dominated.
Mind-set and Mannerisms	Many shoppers chose healthy foods and health alternatives out of habit. A migration towards the purchase of foods low in fat, high in fibre or these with a reduced sugar content was observed, as participants commented on their selections as an effort to be more healthful. It was also noticed that brands marketed as healthy were perceived to be healthier and were popular among shoppers, particularly those aligned with weight loss or a healthy heart.

Healthful shopping practices

Women claimed to shop more healthily than men and those of a higher social class bought more healthful foods than those of a lower social class. In addition, those who were more health conscious and had better nutrition knowledge also bought more healthful foods. Shopping practices, such as quality filtering, pleasing the family, label filtering and novelty seeking, were associated with the purchase of more healthful foods. However, shopping when stressed or hunger reduced the likelihood of purchasing healthful foods. Based on these findings, it is suggested that a shopping leaflet that contained the following consumer friendly tips would be of benefit (Table 8).

Healthy shopping leaflet
COOK WITH CONFIDENCE Try recipes, become confident in adapting to suit the tastes and needs of you and your family.   -   *Why not check out www.safefood.eu or **safe**food's Facebook page for new recipes.*
PLAN AHEAD AND STICK TO IT Think of your weekly schedule and estimate how many meals and snacks you (or your household) will need - make a list with this in mind.   -   *Why not save your shopping list on your computer or phone so that you can use or adapt it accordingly the next time you go shopping.*
STRIKE THE BALANCE Check your list to ensure it is nutritionally balanced. For further guidance why not check out www.safefood.eu for tips on healthy eating. Some suggestions are as follows: • Buy more oily fish, e.g., salmon, mackerel, trout, sardines and anchovies. • Stock up on fresh, frozen, canned and dried fruit and vegetables. • Replenish your cupboard with tinned pulses, beans and starchy carbohydrates, e.g., rice, pasta, noodles. • Limit the amount of high fat and high sugar snacks (e.g., sweets, chocolates, biscuits and crisps). • Limit the amount of high fat meat products (e.g., sausages, pre-prepared pies, ready meals). • Limit your alcohol purchases.
BE IN THE RIGHT FRAME OF MIND Shopping when you feel under pressure (e.g., time, stress, tiredness) or hungry will influence the choices you make. Plan when you will do your shop so you can take your time.   -   *Why not have a snack before you go shopping in case you are tempted.*
LOOK FOR HEALTHFUL PROMOTIONAL OFFERS High fat/high sugar items are often sold on promotion. Where possible, be on the lookout for more healthful offers.
CHOOSE MORE HEALTHFUL ALTERNATIVES When choosing foods look to see if there is a more healthful alternative available. For example, choose whole grains, wholemeal, brown varieties instead of white, frozen vegetables when fresh are not available, leaner cuts of meats, fish instead of meat, low-fat dairy products, e.g., low-fat yoghurt.
LOOK AT LABELS Use food labels to help guide your decision by comparing different variations of a product. Compare the amounts of (saturated) fat, sugar and salt in different products. Use per 100g or per portion, to assist in making a healthy choice. Watch out for claims being made as to how healthy a food is.   -   *Every time you shop, why not choose one product which you regularly purchase and compare it against similar ones to see if there may be a more healthful version that you could try - in time these small changes can begin to improve the overall healthfulness of your shop.*

Conclusions

Consumers typically experienced good/bad eating days and found it easy to relate to this concept. However, good/bad shopping days were linked to a sense of personal achievement and store experience; and had minimal references to health. Those who did refer to health were more likely to be female or those with higher levels of health consciousness. A synopsis of the main conclusions are outlined below

A good shopping day was one where consumers ...

- achieved their shopping goals such as getting all the items they had planned
- bought enough food for the family for the week
- made healthy purchases
- got good value for money
- came across many in-store promotional offers
- had good product availability
- received good service from staff members
- did not encounter long queues
- were not given too much choice
- did not get lured into buying unnecessary items.

Key barriers to a healthful shop are ...

- lack of skills in planning, budgeting and cooking
- knowledge on how to achieve a healthful shop
- mood when shopping
- social circumstances
- not usually related to the in-store environment.

Key facilitators of a healthful shop are ...

- concern for others
- control over food purchases.

Under time and budget constraints consumers

- make different types of shopping decisions
- rely on foods and meals that they prepare on a regular basis and are confident about.

Consumers who are more likely to buy healthful foods ...

- are female rather than male
- have higher socio-economic status
- have higher levels of health consciousness
- have greater nutrition knowledge
- use quality filtering practices
- use label filtering practices
- use novelty seeking practices
- use family pleasing practices.

Consumers are more likely to buy less healthful foods when ...

- in a negative mood
- hungry.

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