What's on offer?

The types of food and drink on price promotion in retail outlets in the Republic of Ireland

safefood

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Glossary

Types of retail outlets

Convenience store - a small, local retail business that stocks a range of everyday items such as groceries, snack foods, confectionery, soft drinks, tobacco products and other non-food products

Discounter - a retail store which sells products at prices that are lower than the typical market price. The discounter may offer a more limited range of goods than a supermarket with a focus on price rather than service or display

Multiple - food retailer outlets that share a brand and central management, usually with have standardised business method/practices and typically dominate the food retail sector

Supermarket - a self-service shop offering a wide variety of food (and other household goods). It is larger and has a wider selection than a convenience store, but is smaller and more limited in the range of merchandise than a hypermarket i.e. a large store combining a supermarket and a department store

Promotional mechanics - the different types of promotional activities commonly employed in retail

Bulk discount - product available as part of a deal for buying more than one of the same product e.g. Buy one get one free; buy one get one half price; buy two get a third one free

Price reduction - the pre-promotional price is shown alongside the price reduction = €xx savings shown for example save 50% was €2 now €1

Standalone offer - no information on pre-promotional price is provided and no price saving is shown for example the product is listed as only €1, only €3

Multibuy - the same product for a special price (but may have flavour variations) e.g. Any 2 for €3, Any 3 for €5

Mix and match - this is a choice combination of different products – for a set price e.g. any 3 fruit items for €3; Any 2 frozen items for €5; 3 for 2 – cheapest free

Certain percentage extra free - no price or cost saving is shown, however the pack size is offering a certain percentage extra free e.g. 33% extra free, 150ml extra free

Meal Deals with choice - product combinations from a number of choices which make a lunch/dinner at a specified price

Meal deals other - product combinations from a choice of products culminating in a meal for a specified price

Reduced to clear - products approaching end of shelf life offered at a reduced price

Top offers - a shortlist of the top online promotional offers chosen by the retailer and positioned on the retailers' landing page website

Promotional locations - A variety of areas throughout the store in which food and drink products are prominently displayed on promotion

Promotional aisle - designated promotional space along the length of an entire aisle (also referred to as a power aisle)

Promotional stand/bins - a stand apart in a prominent promotional area that has a direct impact on product sales

Regular areas - areas in-store that are not designated as promotional areas

Executive summary

Aim: This research set out to provide data on the types of foods sold on promotional offer in retail stores in the Republic of Ireland (ROI). The specific objectives were to:

- Independently audit the type and nutritional quality of food and drink on promotional offer in retail outlets in ROI
- Understand the perceptions of food retailers relating to promotional offers and their influence on consumers' purchasing behaviour in the context of the ROI food retail environment
- Investigate the different factors influencing the retailers' commitment to promoting certain foods using promotions
- Understand consumers' perceptions and motivations to select and purchase, as affected by promotional activity
- Propose recommendations for creating a healthy shopping environment to increase consumer accessibility, affordability and acceptability to healthier food products sold on promotion

In-store audit: A total of 69,620 food products on promotional offer were identified from the audit of a range of supermarkets, discounters, and convenience stores in summer 2016 (July/August) and spring 2017 (February/March). The products were categorised in-line with the food pyramid and also categorised using a nutritional quality score. More than one-third (35%) of the total sample of food and drinks audited were categorised as high in fat, sugar and salt, a clear over-representation of their distribution in the food pyramid. This figure increased to 56.1% for the amount of high fat, sugar and salt foods on promotion in convenience stores. The nutritional quality score was based on the energy, fat, saturated fat, sugar and salt levels of each food product, rated as high, medium or low nutritional quality. Using this measure, almost equal proportions of foods classified as having a low (27.8%) or medium (27.3%) quality score while 45% of the foods audited had a high nutritional quality score. Most promotions were price-based i.e. reduced price or volume-based i.e. receiving more of a product for the regular retail price.

Online audit: Information was collected on 786 products that were being promoted by two retailers during a 12-month period in 2016-17. The results are similar to those of the in-store audit in that there was an over-representation of foods high in fat, sugar and salt on promotion, particularly during the winter season.

Stakeholder interviews: Interviews with a sample (N=14) of retailers and public health stakeholders about retail food promotions identified three main themes:

1. Importance of health in promotional strategies
2. Profit before health
3. Policy engenders action

Retailers variously cited health and customer value as central to their promotional strategies. There was also recognition that future policymaking requires retailers to ensure that retail settings are health-focused.

Consumer survey: The survey explored consumer perceptions and behaviours of foods sold on promotion. The survey was conducted across ROI with the primary household shopper (n=1948). The majority of consumers reported that they regularly bought food on promotion (91.6%) and showed a preference for "price reductions that offer a cost saving" (92.9% reported buying these always, almost every time, occasionally or sometimes) and volume-based ("Buy One get One Free") types of promotions (85.4%). Three different types of consumers were identified from the survey based on what food and drink they want to see on promotion: promotional health rounded; promotional deal prone; promotional 5-a-dayer. Shoppers were also classed based on what food and drink that they purchase on promotional offer: daily staples purchasers; 5-a-day purchasers; and deal prone purchasers. It was clear that consumers' motivations for buying food on promotion is variable as consumers engage differently with promotional food items depending on the product category on promotion and the consumers' impulsivity, health consciousness, deal proneness and use of shopping list.

Accompanied shop: The accompanied shopping exercise with 50 participants identified primarily positive attitudes towards food retail promotions due to their contribution to cost savings, particularly on branded products. All shoppers displayed a level of awareness regarding the availability of promotions on offer, however the way in which they choose to respond to them differed with six clear consumer behaviours relating to:

1. Bargains that benefit the household budget - shoppers liked to shop at a range of stores based on the promotional offers available
2. The buzz of a bargain - some shoppers thrived on getting a bargain
3. Savvy stockpiling - shoppers stockpiled items to make long-term savings
4. Active avoidance of available offers - shoppers chose not to browse the confectionery aisle
5. Reliance on regular reductions - shoppers expected fruit and vegetables and meat to be on regular promotion

6. Using deals to dictate dinner - the promotional offer became the focal point for dinner

Conclusion: Thirty five per cent of food promotions were from the top shelf of the food pyramid (foods and drinks high in fat, sugar and salt) indicating an over representation of these foods by ROI retailers. It is clear that promotions are considered and accepted by consumers to be a part of the shopping experience and indeed are a key influence on purchasing behaviour. However, the profit and health agendas of retailers and public health representatives remain at odds in terms of consistency between policy and practice.

Recommendations:

- Encourage retailers to use the food pyramid in retail planning as a means of assessing the proportions of healthy and unhealthy foods on promotional offer.
- Encourage retailers to promote food and drink in line with the balance of the food pyramid
    - reduce the promotion of food and drinks high in fat, sugar and salt
    - increase the frequency and prominence of healthy promotions instore and online to encourage their uptake
    - exploit volume-based promotions in favour of healthy foods.
- Use research data and insights to target healthier food promotions to different consumer sub-groups.
- Monitor the types of food and drinks on price promotion.
- Promote consumer awareness on how healthy foods on price promotion can be used in meal planning.
- Promote consumer awareness of strategies that can be used to shop in a way that supports healthy eating guidelines.

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1 Introduction

Supermarkets are recognised as an important retail environment to promote healthy eating given that they dominate the market and are significant gatekeepers of our food supply and what we eat in the home (3). Retail food environments are accepted as contributing to obesity due to high levels of availability and accessibility of processed foods that are typically energy-dense and high in fat, sugar, and salt (4). The food retail environment is however considered an opportune setting for influencing positive behaviour change (5). The retail environment in which individuals make food choices can also be shaped, for example by interventions which use incentives and rewards to increase the availability and/or affordability of healthy foods such as fruit, vegetables and reduced fat products (6). Cameron et al (7) concluded that supermarket-based interventions have considerable potential to change population diets.

Food marketing has become an important public health concern with research needed to identify practices that contribute to the obesogenic environment and inform policy development to change resulting consumer behaviours (8). The Republic of Ireland (ROI) Obesity Policy and Action Plan - A Healthy Weight for Ireland seeks to "secure appropriate support from the commercial sector to play its part in obesity prevention", one of the priority actions being the development of a code of practice for food and drinks promotion (9).

Promotional activity is one important part of the food retail landscape for both consumers and retailers. Consumers are 'value' conscious and demonstrate savviness in their shopping behaviours having come to expect reduced prices and are increasingly reliant on discounters (10). Consumers can save money on their average shop by seeking out promotional in-store food offers – an aspect which is important given the relative cost of food in the current economic context (11, 12). The majority (59%) of consumers in the ROI continue to look for savings on household expenses, which are above the EU average, and coping strategies include switching to grocery products that represent better value to them and actively seeking promotions (13).

Retailers on the other hand employ many different approaches to promote their products and entice more shoppers to their stores (14), competing in terms of price and seeking to increase overall sales by using a range of promotional tactics that are most relevant to the needs, tastes and interests of consumers. Promotional techniques include price reductions, advertising, displays, coupons, broadcast promotions and in-store samples to encourage shoppers to purchase products (15).

Price promotions, which are the focus of this research, are widely used by supermarkets to encourage purchase of targeted products more quickly, more frequently, and/or in greater quantities (3). Price promotions include both price-based e.g. '50% off' and volume-based promotions e.g. 'Buy One Get One Free'. Price promotions (16) have been shown to be extremely effective in altering consumer behaviour with a 200-1,000% uplift in product sales (17), albeit in the short-term (18). This behaviour change is particularly evident in consumers with a lower socioeconomic status, females aged 30-40 years, those with no shopping list and those who are more receptive to price promotions (19, 20). This activity is important to retailers with consumer price promotions accounting for more than half of many manufacturers' marketing budgets (21). On average across Western Europe, more than one-quarter of food and drink sales volume (28.6%) is now sold on promotion (22). This responsiveness to food promotion has also been used successfully as a tool to increase the sales of healthier food (23-25) suggesting that pricing strategies have potential to improve population diets. An evidence review by Public Health England (26) in relation to actions to reduce sugar consumption found that food retail price promotions are more widespread in Britain than anywhere else in Europe; that foods on promotion account for around 40% of all expenditure on food and drinks consumed at home and that higher sugar products are promoted more than other foods. The review also found that price promotions increase the amount of food and drink people buy by around one-fifth (22%) and are purchases that people would not make if the price promotions did not exist. They also increase the amount of sugar purchased from higher sugar foods and drinks by 6% overall and influence purchasing by all socioeconomic and demographic groups.

There are a limited number of studies that have looked at the nutritional quality of foods currently being promoted to consumers. Research findings on the healthfulness of food promotions has been inconsistent: US (27-29) and Dutch (30) research concluded that promotions favour processed, high protein, energy dense foods while UK (31) research found a majority of promotions to be considered healthy. However, comparisons between studies are difficult as not only is the nature of the data different, i.e. advertised versus purchased, but also the methods used to assess the healthfulness of the promoted food. Ravensbergen et al. (30) used food groups and recommended frequency of consumption (preference products, occasional products and products for exceptional cases) in line with the Netherlands' 'Guidelines for Food Choice' (30). Whereas Nakamura et al. (31) used the UK Department of Health Nutrient Profiling Model (32) which takes into account the macronutrient content of the food, as well as the energy density, sodium, fruit, vegetable and nut content, using a scoring system. Consumer perception is that food promotions focus mainly on foods they deem to be less healthy and foods considered healthier are less frequently on special offer (33).

Despite one study investigating food promotions in Northern Ireland (1), no study to date has explored the healthiness of food promotions in the ROI and no studies have investigated consumers' thinking while choosing foods on promotional offer in the supermarket setting; thus the current research set out to investigate this area.

2 Aim and objectives

The aim of this research was to provide data on the types of foods sold on promotional offer in retail stores in the Republic of Ireland. The specific objectives were to:

- provide insights into the balance of food promotions between 'healthy' and 'less healthy' foods.
- gain insights on food promotional offers from both retailers and consumers.
- identify strategies to enable healthier food shopping which will help improve consumer diets in the long term.

The research was carried out between June 2016 and November 2017 and included three different elements:

1. audit: in-store and online audit of food promotions of food retailers;
2. interviews with retailers, trade associations and public health stakeholders;
3. online consumer survey and accompanied shopping exercise.

3 Methods

Definition of retail promotions used for the research

The phrase 'retail food promotions' may be considered an umbrella term that includes a range of price-related and promotional (including advertising) factors. For the purposes of this research, retail food promotions are defined as 'forms of promotion which are primarily associated with a temporary reduction in price" (34).

In-store and online audit

Two audits of retail food promotions were carried out, in-store and online. The profile of food promotions in-store was undertaken given the centrality of supermarkets, convenience stores and discounters as principal food shopping destinations. The online audit was undertaken as systems for monitoring online food shopping show that the number of consumers using this environment is increasing, with one-quarter of consumers in the ROI (17-30% aged 15-65 years) using the online environment for their grocery shopping and over half (55%) willing to do so in the future (35).

The in-store audit (n=176 stores) was undertaken across a sample of food retail outlets in the ROI (n=8 retailers). The online audit was completed in respect of two food retailers operating in the ROI. Both audits described the nutritional quality of the types of foods on promotion by categorising them against the food pyramid and by using a nutritional quality score. The audit also set out to determine if the promotional offers differed across store type.

Research design and data collection: In-store audit

The sampling strategy was developed based on market share, areas of deprivation, rural/urban location and geographical area. All retailers operating in the ROI were approached via their trade associations and/or independently. A research brief, information sheet and informed consent letter were sent to each representative and follow up telephone calls made, where required.

A total of eight retailers (Aldi, Centra, Costcutter, Gala, Marks and Spencer's, Supervalu, Tesco and Topaz) agreed to participate in the study. This sample reflects a 63% share of the grocery market and included supermarkets, discounters and convenience stores. Data were collected for 150 in-store audits (75 stores matched at two points in time: July/August 2016 (time 1) and February/March 2017 (time 2)).

Those retailers who declined did so for reasons of disinclination to participate in external research programmes and/or unwillingness to add to members' workload amidst other competing pressures. Non-participating retailers were re-approached for subsequent stages of the research but declined to re-engage.

The research used a previously developed (1) fit-for-purpose audit tool (Table 1) to determine the current provision of food promotions provided by retail stores across the ROI. The audit tool assessed:

- promotional observations - the number of food and drink products on price-promotion in a retail outlet at different time points, across different product categories and promotional mechanics. A number of the same retailers were visited in different locations within the same point in time meaning the same promotional items were being offered therefore each item was deemed an observation.
- in-store promotional position.
- promotional price.
- healthiness of promotions across food retail chains.
- percentage cost saving was calculated using the following equation [(price before discount – price after discount)/ (price before discount) x 100].

Table 1: Audit tool

Factor	Rationale
Product name / brand / manufacturer	To identify the number of national versus store own-brands on promotion
Product type	To enable the coding of foods based on the Food Pyramid
Pack size	To identify the weight of the product
Description of product	To record a brief description of the product
Promotion observation	To determine if promotion is a cost saving, buy one get one free, price reduction, etc.
Cost on promotion	To record the cost of the product on promotion
Cost pre promotion	To record the cost of the product pre-promotion (as displayed on shelf edge label)
% cost saving	To record comparisons between products
Unit of product	To draw comparisons between products
Positioning	-
Suggested serving size	To record the recommended serving size
Nutritional information (per 100g/100ml)	
Other relevant information	To record any health claims made on the product, marketing information e.g. seasonal product

Research design and data collection: online audit

Information was collected every three weeks on products promoted on the 'Top Offer' website section (special offer landing site) of the two leading supermarkets in the ROI who provide an online retail service (Tesco and Supervalu; 22.7% and 22.6% market share respectively; (20)). Data were collected over a 12-month period at 18 time points, grouped by season: Spring: March-May; Summer: June-

August; Autumn: September-November; Winter: December - February. For each promotional observation information was collected in line with in-store data, i.e. production description and brand, pre-promotional and discount price, promotion type and energy and nutrient information (per 100g / 100ml). Promotional observations were analysed in respect of food type, healthfulness and seasonality.

Food type analysis

Categorisation of food products using the food pyramid

The food products were categorised into food groups based on the shelves from the food pyramid (36) plus an ‘other’ category:

- vegetables, salad and fruit
- wholemeal cereals and bread, potatoes, pasta and rice
- milk, yoghurt and cheese
- meat, poultry, fish, eggs, beans and nuts
- fats, spreads and oils
- foods and drinks high in fat, sugar and salt
- ‘other’ category including coffee, tea, water and low-calorie soft drinks (energy content ranged from 0.06-20kcal per 100ml), and spices.

Nutritional Quality Scoring

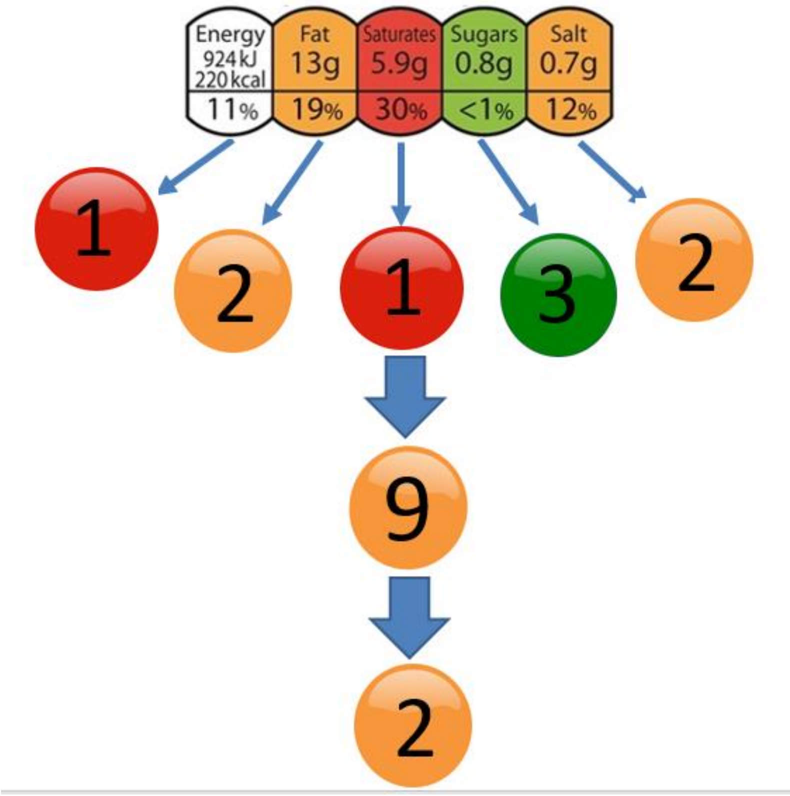
The nutritional quality scoring system was based on that used by Hollywood et al (1) for a similar piece of work completed in NI. The scoring system included a number of steps:

1. Individual nutrient quality scores: Each food product was assigned individual nutrient scores for energy (kJ) and sugar, fat, saturated fat and salt content (g per 100g). Scores ranged from 1 to 3 i.e. red=1, amber=2 and green=3 according to the FSA front of pack (FOP) nutrient labelling methodology [1]. Energy values were classified based on a method used by Bell et al (2) adapted by collapsing into three categories (low, moderate and high):
2. Per 100g: High (red= 1) >560kJ; moderate (amber=2) >440 to $\leq$ 560kJ; and low (green =3) $\leq$440 kJ
3. Per 100mls: High (red=1) >280kJ; moderate (amber=2) >220 to $\leq$ 280kJ; and low (green=3) $\leq$220 kJ
4. Composite nutrient quality score: The individual nutrient scores were totalled to create a mean composite score for each food item (range 5-15).

5. Mean Nutrient Quality Score and nutrient quality category: A mean Nutrient Quality Score was then calculated by dividing the composite nutrient quality score by 5 (number of scores) (range 1-3). Foods were then categorised into high (red) =1, moderate (amber) =2 and low (green) =3 Nutrient quality using tertile cut-offs:

- High (score=2.34-3) e.g. fresh fruit, vegetables, wholegrain bread, low-fat yoghurt, diet drinks, tuna, rice
- Moderate (score=1.67-2.33) e.g. dried fruit, coleslaw, chicken, salmon, primal meat cuts, breakfast cereal, baked beans, bread, Greek yoghurt
- Low (Score=1-1.66) e.g. chocolate, bacon, sausages, butter/spreads, pies, dips, high-sugar breakfast cereal/cereal bars, cauliflower cheese, cakes, ice cream.

Figure 1: Worked example for the Nutrient Quality Score analysis



For example: a burger product was scored (Figure 1).

- Individual nutrient quality score: energy 1, fat 2, saturated fat 1, sugar 3 and salt 2
- Composite nutrient quality score 9
- Mean nutrient quality score 2 i.e. moderate nutrient quality.

Data analysis

Data characteristics were explored using descriptive data analysis and cross tabs, and data was expressed as means (SD). Differences between groups (for example, seasons, food pyramid) were assessed using ANOVA with post-hoc Tukey tests (>2 groups) and $P<0.05$ was considered significant. Pearson's Chi-squared tests were used to investigate differences between food groups and associations were assessed using Pearson's Correlations.

Stakeholder interviews

Previous evidence (37, 38) suggests that retailers would provide healthy foods if they perceived demand for these products and that interventions targeting the in-store supermarket environment have considerable potential to change population diets and social norms around what is a healthy diet (7). Interviewing retailers has been used in a limited way in the literature to explore promotional activity, mostly due to the collaboration between retailers and academic researchers (39) being potentially challenging for both sides because of different working practices and priorities.

Semi-structured interviews with representatives from retailers, retail organisations and public health stakeholders (Table 2) were undertaken to discuss promotional strategies and understand the implications of retail food promotions on public health policy in the ROI. This element was undertaken as no study to-date has explored the ROI retailers' and stakeholders' perceptions towards the healthiness of retail food promotions.

Table 2 Participant sample

Sample	Purpose	Roles	Method
Retail organisations and trade associations N=10	-		Telephone interview
Public health stakeholders N=4	To understand the implications of retail food promotions on public health policy in the ROI.	Representation from: • Policy Directors; and • Health Promotion Managers	Telephone interview

Recruitment

Each retailer that had participated in the in-store audit (n=8) was contacted and all participants agreed to continue their involvement by putting forward a representative to participate in the interviews. The three retailers that had declined to participate in the research were approached a second time but none agreed to re-engage with the study. Retail organisations (n=2) provided a nominated spokesperson to participate. Public health stakeholders were purposively recruited to represent government health departments (n=2) and non-departmental public bodies/health charities (n=2). Six individuals were approached and four agreed to represent their organisations' views. Two declined as the organisations were already represented in the research. A total sample of 14 participants containing two sets of participants: (a) retail organisations (retailers: n=8 and retail trade associations: n=2); and (b) public health stakeholders (n=4) was achieved.

Development of the topic guides

Results from the in-store audit were used to inform the development of the interview protocols and were designed to explore the following topics:

- Current factors impacting on food retail promotions;
- Strategic decisions surrounding food retail promotions; and
- Feedback of the results from the in-store audit.

Interview procedures and data analysis

All participants were assured of the anonymity of the data prior to the commencement of the interview. Each retailer received a brief report displaying a summary of main findings of the in-store (and on-line if applicable) audit and their individual performance. *[Individual retailer performance is not reported in this document due to client confidentiality]*. Public health stakeholders received only a verbal report of the headline findings from the audit. Verbal consent was obtained for audio recording of the interview. The interviewer outlined the format of the interview and at the close of each interview participants were thanked and informed that they could ask the researcher any questions or raise any concerns surrounding the research. Each interview lasted between 25–55 minutes and was digitally recorded and transcribed. Content was thematically analysed to identify the factors impacting on retailers' promotional strategies. Verbatim quotes displayed within the results section are coded as retail or public health.

Consumer survey

An online consumer survey was undertaken to explore consumer perceptions, motivations and reported behaviours around promotional offers. A recruitment company was used for the administration of the survey with a representative sample of people in the ROI with responsibility for household food shopping. A total of 2,246 respondents completed the survey; however, 298 respondents were excluded from the final sample because they were resident in Northern Ireland yielding a final sample of 1,948 respondents.

The survey was developed to capture consumers' promotional food purchasing preferences using 27 different food categories (Appendix Table A8). These categories were selected from the 32 food and drink categories (alcoholic drinks and diet carbonates were not included) used by FSA NI to analyse food and drink purchasing data for NI households from Kantar Worldpanel data (personal communication with FSA NI 2018). These categories were used as they represent industry-accepted data, reflect the typical shopping basket and are meaningful for consumers.

Although initially rated on a scale of one to eight (1=never to 8=two-or-more items daily) response format, these items were recoded into either not bought (1) or bought (2) within the month. To examine the influence of important underlying drivers on promotional food-buying intentions, The Theory of Planned Behaviour (41) was employed – to measure (i) shoppers' attitudes towards buying foods on promotional offer; (ii) subjective-norms, or the influence of important people (spouses, kids, peers etc.) on their buying of foods on promotional offer; and (iii) perceived behaviour control, or the perception of being able to buy foods on promotional offer. All the main Theory of Planned Behaviour items were assessed on seven-point semantic differential scales. Higher scores mean more favourable intentions, attitudes, subjective norms and perceived behavioural control towards buying foods on promotional offer. Further information about the Theory of Planned Behaviour items can be found in the Appendix (Table A1). Additional attitudinal measures exploring deal proneness, health consciousness, impulsivity and food perceptions, along with demographic information, were also included (see Appendix Table A1).

Data analysis

Latent Class Analysis (LCA) was performed on the 27 promotional food items (see Appendix Table A8) to explore if unique hidden consumer profiles could be identified highlighting differences in the ways consumers shop for these items when they are on promotional offer. Once the number of consumer profiles had been established, comparisons were made with the other consumer profiles using the largest consumer profile as the comparator. This approach was taken as the generation of consumer profiles not only allows the categorisation of consumers by food items they purchase but also comparisons of consumer profiles. However, more importantly, understanding consumer profiles allows for more targeted behavioural change interventions e.g. tailored health-related promotions and policy solutions generally. This will support our understanding about how different consumers have different motivations for purchasing healthy and less healthy items. Though classification is important, it does however not tell us the role various psychological drivers have on consumer choice. Thus, inclusion of Ajzen's (41) Theory of Planned Behaviour provides important insight into the role of consumer intentions and attitudes towards buying foods on promotional offer; examining the role of social pressures and confidences regarding buying foods on promotional offer. Additionally, factors such as impulsivity (42, 43), health consciousness (44), deal proneness (14), and attitudes towards food (43) could provide insight into the motivations of consumers and the healthiness of their shop. Overall, the identification of the largest class of consumer will allow comparison between it and other classes against each of these psychological variables so that the profile of the shopper can be understood. This stage of the research therefore will allow us to gain insight into the decision-making processes on promotional offers to set the context of the study and inform evidence-based recommendations derived from shoppers.

Accompanied shop

An accompanied shop was carried out with 50 participants with responsibility for household food shopping to generate qualitative data on the influence of promotions during a grocery shop from a consumer's viewpoint. All data were collected between March and April 2017. The study design consisted of three elements: a pre- and post-shopping survey, and an accompanied shop

Rationale

Accompanied shops can provide insight on the decision-making processes by observing first-hand how an individual responds to a promotional offer, what they are thinking about while the experience is happening and provide recall information on the reasoning for their choices in the moment. Few studies have focused on the relationship between the individual decision-making, store environment and processes when buying grocery items on promotional offer highlighting a need for more studies conducted within the real-life supermarket setting (6, 45, 46). Previous supermarket studies have shown a link between individuals who act impulsively and their likelihood to purchase food higher in calories (47, 48) while Nederkoom (49) proposed that highly-impulsive individuals would be less likely to resist sales promotions of food items. The influence of price promotions on the healthfulness of one's purchase decision has been highlighted in the literature (30, 39); however, the rationale for availing of or avoiding a promotional offer within the context of a grocery shop remains under researched. Waterlander et al (25) emphasised the need for more research on how pricing strategies can influence an individual positively by forgoing unhealthier options for healthier alternatives. No studies have been identified that have investigated consumers' thinking while choosing foods on promotional offer in a supermarket setting, thus the current research provides insightful, original evidence in this field exploring consumer attitudes and perceptions towards promotions.

Pre-shop and post-shop surveys

The pre- and post-surveys (see Appendix 2) measured participants' affective attitudes towards the accompanied shop using a total of nine seven-point semantic differential scales as outlined by Ajzen (41, 50); examples included: excited/calm, wide-awake/sleepy, happy/unhappy and positive/negative. Additional questions in the pre-survey assessed planning and if they wished to avail of promotional food offers while in store. Additional questions in the post-survey assessed attitudes towards promotional offers.

Technique

The accompanied shop employed a 'think-aloud' technique which required participants to verbally describe all the items they were looking or searching for as well as describing anything they were doing while shopping. Prior to commencing the accompanied shop each participant was trained in the 'think-aloud' technique. Each participant had a digital recorder discreetly attached to their clothing while they shopped and the researcher acted as a shadow during the shop. Only if the participant fell silent during the shop did the observer, when appropriate, use prompts to remind them to think aloud. At the checkout the observer asked participants some final questions relating to the task (e.g. How did they feel? Did they buy any items they had not intended purchasing? Did they avail of any promotions?). Prior to each shop participants were told that they were being observed on their shopping behaviour in general and no reference to promotional offers was made. Each accompanied shop lasted between 20 – 90 minutes.

Recruitment

A convenient sample of fifty participants aged 18 years and over and from the ROI was recruited by a market research company. Data are presented for 48 participants as one participant was lost due to a scheduling error and the data from one of the shops could not be used due to a technical issue with the digital recorder.

Efforts were made to ensure the diversity of the profile of participants based on a number of key demographic characteristics such as number of dependent children, household size and promotional propensity, geographic location, age, gender, socio-economic status and household size.

Participants received a telephone briefing prior to the study (e.g. date, time, location, incentive) and were offered a monetary incentive (€50 voucher) in recognition of their participation. Informed consent was obtained and in-store permission was granted from each of the stores in which participants shopped.

Data analysis

Data from the pre- and post-shopping surveys were entered into SPSS v23 for descriptive statistical analysis and the accompanied shop 'think aloud' data were fully transcribed and inputted into NVivo (v11). Thematic analysis was used whereby key quotes were coded and grouped together to understand the role of food retail promotions within a grocery shop. Verbatim quotes displayed within the results section are coded using participant numbers, gender, age and location in which the participant resides.

4 Results

In-store audit

Product information was collected from 59 supermarkets, 46 convenience stores and 10 discounters. Information on a total of 69,620 food product items was collected over the duration of the study of which 41,806 products were collected during July/August 2016 (Time 1) and 27,814 products collected during February/March 2017 (Time 2). Within the total sample 80% of products were branded and 20% were own-brand. The total sample items from supermarkets accounted for 91% of the products (63,657) over the duration of the study of which 60% (38,339) was collected in Summer and 40% (25,318) collected in Spring.

Results are presented for the total sample (supermarkets, discounters and convenience stores) and for the supermarket-only sample given that 91% of the outlets sampled were supermarkets. Results are presented under a number of headings:

1. Types of promotions
2. Locations of promotion
3. Types of food on promotion relative to food pyramid categories
4. Profile of foods on promotion measured using a Nutritional Quality Score
5. Percentage cost savings
6. Types of promotions observed for different food pyramid categories.

The results also reference the time period in which the in-store audit data were collected to see if the time period influenced any of the above.

What types of promotions were used?

Price reduction (59.2%) and multibuys (24.5%) were the most frequent type of promotion for the total sample and for the supermarket-only sample in which case 62.7% were price reductions and 24.7% were multibuys.

Foods and drinks high in fat, sugar and salt top shelf were mostly promoted through a price reduction, a standalone offer or as a multi-buy for the total sample (Table 3). This was also the pattern for the supermarket-only sample (Table 4). Fats and oils were largely promoted via a price reduction for the total sample and supermarket-only sample. All other food categories were mostly promoted as a price reduction or as a multibuy.

Table 3: Type of promotions used for each food pyramid category for the total sample

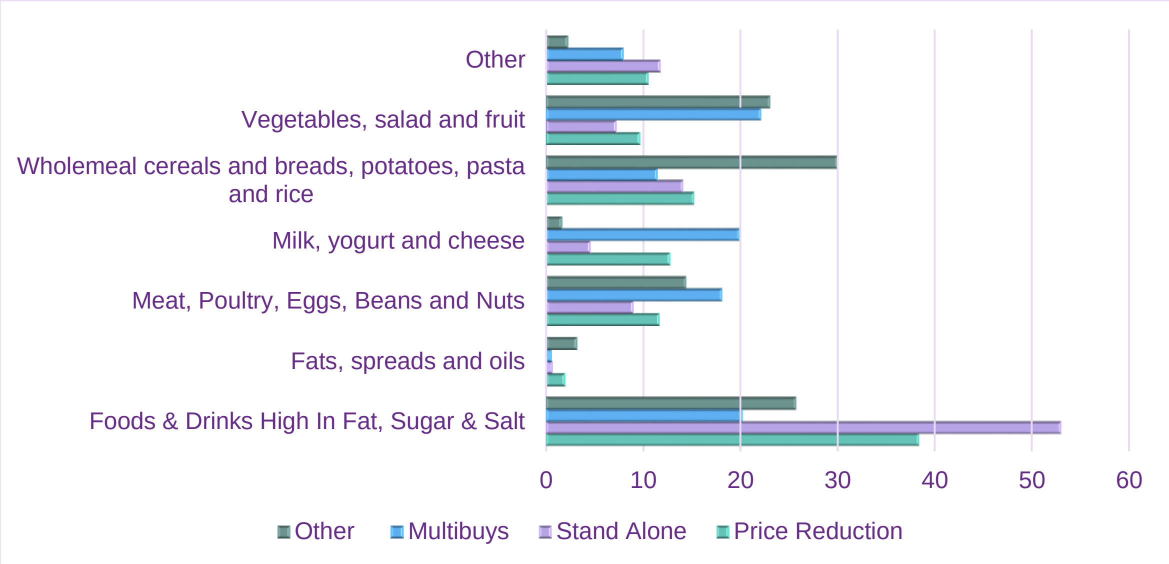
Food category	Price reduction	Standalone Offer	Multibuy
Food and drinks high in fat, sugar & salt			
Fats, spreads & oils	77.6	4.6	9
Meat, poultry, fish, eggs, beans & nuts	53.0	8.3	34.1
Milk, yoghurt & cheese	57.8	4.2	37.5
Wholemeal cereal & breads, potatoes, pasta & rice	61.1	11.6	18.9
Vegetables, salad & fruit	43.9	6.7	42.0

Table 4: Percentage type of promotions used for each food pyramid category for the supermarket only sample

Food category			
Food and drinks high in fat, sugar & salt	70.3		18.5
Fats, spreads & oils			34.6
Meat, poultry, fish , eggs, beans & nuts			34.6
Milk, yoghurt & cheese			37.2
Wholemeal cereals & breads, potatoes, pasta & rice			19.8
Vegetables, salad & fruit		3.1	43.4

Significantly (p<0.001) more foods and drinks in all food pyramid categories were on offer as a price reduction. The second most common food promotion was a multibuy for the food pyramid categories: meat, poultry, eggs, beans and nuts; milk, yogurt and chesses; and vegetables, salad and fruit (Figure 2).

Figure 2 Types of promotions used for each food pyramid category for the total sample



Other* (Bulk discounts, mix and match, certain percentage free, meal deals with choice, reduced to clear, meal deals other)

Significantly more products with a low nutrition quality score were promoted as multibuys or standalone offers for both the total sample and supermarket-only sample; more high nutrition quality score items were promoted as a price reduction (Tables 5 and 6).

Table 5: Types of promotion by Nutritional Quality Score for the total sample

Promotion type	High NQ	Medium NQ	Low NQ
Price reduction	30.7	27.8	41.5
Standalone	29.3	23.6	47.2
Multibuys	21.6	25.5	52.9

Table 6: Types of promotion by Nutritional Quality Score for the supermarket-only sample

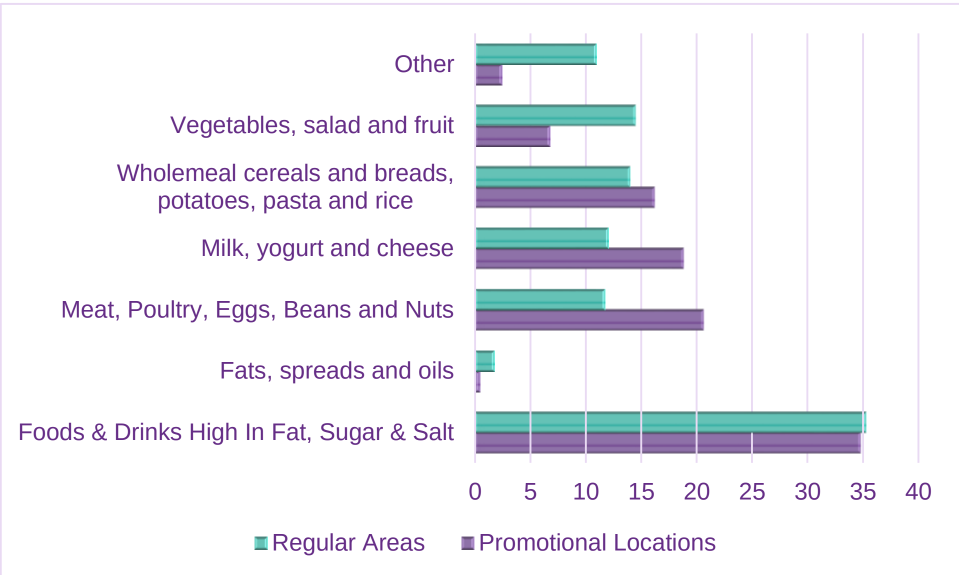
Promotion type	High NQ	Medium NQ	Low NQ
Price reduction	30.7	27.8	41.6
Standalone	25.8	20.7	53.6
Multibuys	20.6	25.8	53.5

Where were the foods on promotion located in the store?

Significantly ($p<0.001$) more products (85.3%) were on promotion in regular areas relative to promotional areas (14.7%) for the total sample. Products in regular areas are located alongside other products not on promotion in the middle of the aisle whereas promotional areas include end of aisles and promotional stands.

More foods from the protein and dairy groups were on offer in the promotional areas compared to the regular areas. However, more fruit and vegetables and products classified as "other" were on offer in the regular areas (Figure 3).

Figure 3 Location of foods on promotion for each food pyramid category for the total sample



What types of foods were on promotion?

Food pyramid categorisation

More than one-third of products on promotion were foods and drinks high in fat, sugar and salt for both the total sample (35.3%) and the supermarket-only sample (34.1%) (Table 7). The percentage of these foods on promotion in convenience stores was 56.1% (Table 8).

Table 7: Categorisation of foods on promotion by food pyramid group

Food pyramid group	Total sample		Supermarket only	
	N	%	N	%
Food and drinks high in fat, sugar and salt	24602	35.3	21727	34.1
Fats, spreads and oils	1028	1.5	984	1.5
Meat, poultry, eggs, beans and nuts	9076	13.0	8381	13.2
Milk, cheese and yoghurt	9067	13.0	8554	13.4
Wholemeal cereals and breads, potatoes, pasta and rice	10277	14.7	9486	14.9
Fruit and vegetables	9001	12.9	8361	13.1
Other	6734	9.6	6206	9.7
Total	**69785**	**100.0**	**63699**	**100.0**

Table 8: Categorisation of foods on promotion by food pyramid group for the convenience stores

Food pyramid group	N	%
Food and drinks high in fat, sugar and salt	2251	56.1
Fats, spreads and oils	20	.5
Meat, poultry, eggs, beans and nuts	384	9.6
Milk, cheese and yoghurt	286	7.1
Wholemeal cereals and breads, potatoes, pasta and rice	465	11.6
Fruit and vegetables	268	6.7
Other	338	8.4
Total	**4012**	**100.0**

Nutritional Quality Scoring

Forty five per cent of the total sample of foods on promotion had a high nutrition quality score (2.3-3), 27.3% were classed as medium (1.7-2.3) while 27.8% had a low nutrition quality score (1-1.7). The mean nutritional quality score for each of the food pyramid categories shows that the food and drinks high in fat, sugar and salt and fats, spreads and oils had the lowest score (Table 9).

Table 9: Nutritional quality score for the different Pyramid Shelves

Food category	N	Mean (SD)
Foods and drinks high in fat, sugar & salt		
Fats, spreads & oils	1028	1.60 (0.12)
Meat, poultry, fish, eggs, beans & nuts	9076	2.15 (0.44)
Milk, yoghurt & cheese	9067	2.23 (0.53)
Wholemeal cereal & breads, potatoes, pasta & rice	10277	2.11 (0.47)
Vegetables, salad & fruit	9001	2.63 (0.36)
Other	6734	2.80 (0.43)

What was the percentage cost saving for the products on promotion?

The mean discount (%) ranged from 13.8-30.7% for the total sample (Table 10) and from 13.9-31.1% for the supermarket-only sample (Table 11). Products in the fruit and vegetables, dairy and fats and oils groups displayed the highest mean discount. There was no significant difference in the percentage discount offered on foods in the different food pyramid categories for the total sample or the supermarket-only sample.

Table 10: Mean percentage discount by food pyramid category for the total sample

Food category	Mean % discount
Food and drinks high in fat, sugar & salt	29.6
Fats, spreads & oils	30.2
Meat, poultry, fish, eggs, beans & nuts	28.5
Milk, yoghurt & cheese	30.2
Wholemeal cereal & breads, potatoes, pasta & rice	27.5
Fruit & vegetables	30.3
Other	26.7

Table 11: Mean percentage discount by food pyramid category for the supermarket-only sample

Food category	Mean % discount
Food and drinks high in fat, sugar & salt	30.2
Fats, spreads & oils	31.1
Meat, poultry, fish, eggs, beans & nuts	29.1
Milk, yoghurt & cheese	30.6
Wholemeal cereal & breads, potatoes,, pasta & rice	28.0
Fruit & vegetables	31.0
Other	27.0

Was there any difference in promotions between the two sampling periods?

Types of promotional activity:

Significantly (p<0.001) more products were promoted as multibuys in Time 1; significantly more products were promoted as a standalone offer or price reduction in Time 2 (Table 12).

Table 12: Types of promotional observations by sampling period for the total sample

Time	Price reduction	Standalone offer	Multibuys	Other*
Time 1 & 2	62.7	8.4	24.7	4.1
Time 1	59.1	3.7	32.6	4.6
Time 2	68.2	15.7	12.8	3.3

Other * (Bulk Discounts, Mix and Match, Certain % Free, Meal Deals with Choice, Reduced to Clear, Meal Deals Other)

Location of promotions

Significantly more products were on offer in in promotional locations i.e. promotional aisles, end of aisles in Time 2 for both the total sample and the supermarket-only sample (Table 13).

Table 13: Location of promotions by sampling period

Time period	Promotional locations *		Regular areas **	
		-		-
Time 1 and 2	14.7	14.1	85.3	85.9
Time 1	10.2	9.2	89.8	90.8
Time 2	21.3	21.6	78.7	78.4

* Promotional Buckets, Promotional Aisle, End of Aisles, Promotional Stands, Promotional Fridges, Promotional Freezers, Check Out Stands); ** Generic Aisles, Fruit and Veg, Generic Fridges, Generic Freezers, Other, for example store entrance

Types of foods promoted

There were significantly (p<0.001) more food and drinks high in fat, sugar and salt on promotion in Time 2 and more fruit and vegetables and 'other' foods on promotion in Time 1 for both the total sample (Figure 4) and the supermarket-only sample. (Figure 5). This trend was also apparent when the foods were categorised using a nutrition quality score (Table 14).

Figure 4: Types of food groups on promotion by sampling period for the total sample

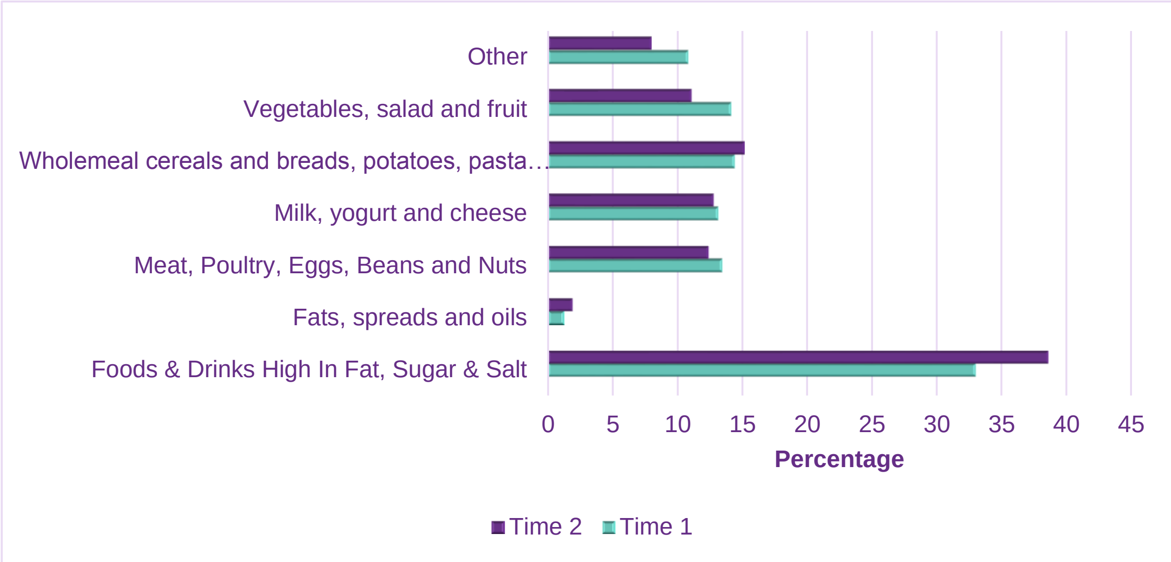


Figure 5: Types of food groups on promotion by sampling period for the supermarket-only sample

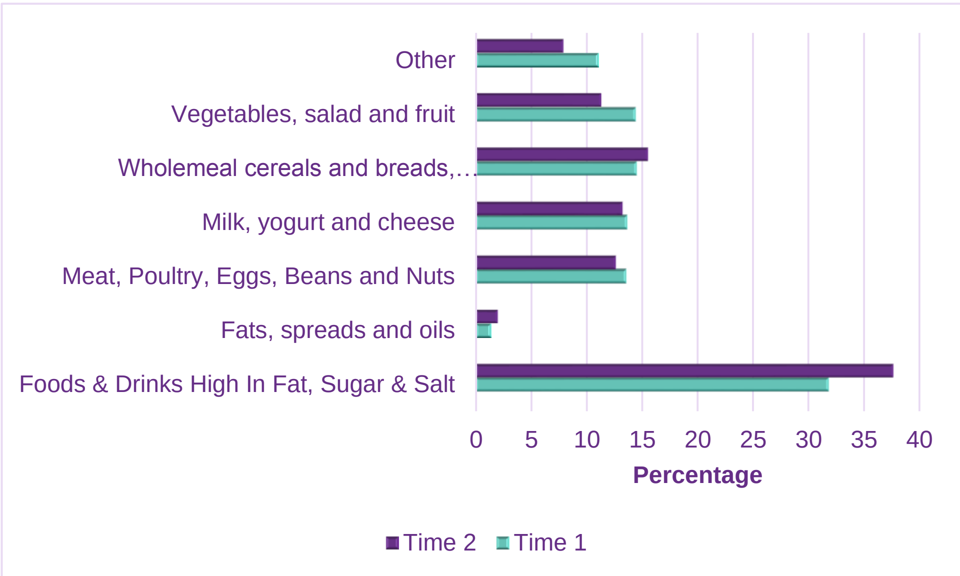


Table 14: Nutrition Quality Score of products by sampling period for the total sample

Time	% with a high score		% with a medium score		% with a low score	
	Total sample	Supermarket-only	Total sample	Supermarket-only	Total sample	Supermarket-only
Time 1 & 2	45.0	45.5	27.3	27.3	27.8	27.2
Time 1	46.7	47.1	29.1	29.2	24.3	23.7
Time 2	42.4	43.1	24.6	24.5	33.0	32.5

Percentage discount

The percentage discount across the two sampling points for each of the food pyramid groups is detailed in Table 15.

Table 15: Mean percentage discount for food pyramid categories by sampling period

Food category	% discount - Time 1		% discount - Time 2	
	Total sample	Supermarket-only		Supermarket-only
Food and drinks high in fat, sugar & salt	29.6	30.1	29.4	30.4
Fats, spreads & oils	30.7	30.9	29.0	31.7
Meat, poultry, fish, eggs, beans & nuts	29.7	30.3	23.7	24.1
Milk, yoghurt & cheese	30.6	30.9	28.8	29.4
Wholemeal cereal & breads, potatoes, pasta & rice	28.7	29.0	22.7	23.8
Fruit & vegetables	30.7	31.1	28.4	30.4
Other	28.4	28.6	13.8	13.9

Summary

What types of promotions were most common?

Price reduction (59.2%) and multi-buys (24.5%) were the most frequent type of promotion indicating the priority status that retailers are attaching to price-based promotions over volume-based promotions.

Where were the foods on promotion located in the store?

The majority of products (85.3%) were promoted alongside other products not on promotion in regular areas in-store e.g. aisles, fruit and vegetable displays, chiller and freezer aisles suggesting less reliance on targeted promotional aisles/areas and an increased emphasis on the inclusion of offers among non-promotional items.

What types of foods were on promotion relative to the food pyramid?

The most frequent food group promoted was foods and drinks high in fat, sugar and salt (35.3%) highlighting a disproportionate ratio of offers when categorised relative to other food groups in the food pyramid.

What was the profile of the foods on promotion measured using a Nutritional Quality Score?

Forty five per cent of foods on promotion had a high nutrition quality score (2.3 to 3), 27.3% were classed as having a medium score (1.7 to 2.3) while 27.8% were classed as having a low score) (1 to 1.7).

Percentage cost saving

The mean discount (%) ranged from 26.7-30%. There was no significant difference in the percentage discount offered on foods in the different food pyramid categories.

Was there any difference in promotional activity between the two sampling periods?

Significantly more products were on offer in dedicated promotional locations and significantly more food and drinks high in fat, sugar and salt were on promotion in Time 2. More fruit and vegetables and 'other' foods were on promotion in Time 1.

Online audit

There were 786 products on promotion online over the 12-month period, an average of 43.7 (SD18.6) products per week. The majority were branded goods (78.5%), food as opposed to drinks (88.7%), promoted in autumn (33%) and the most common type of promotion was price reduction (40.6%) (Table 16).

Table 16: Characteristics of 'Top Offer' online food on promotion

		N	%
Type			
	Drink	89	11.3
Supermarket	Supermarket 1	268	34.1
	Supermarket 2	518	65.9
Brand	Branded	617	78.5
	Own-brand	169	21.5
Offer types	Price discount	319	40.6
	Standalone	291	37.0
	Multibuys	138	17.6
	Bulk discount	34	4.3
	Meals deals	2	0.1
	New product	3	0.4
Total		**786**	**100**

What types of foods were on promotion?

Food pyramid categorisation

More than one-third (34.4%) of products on promotion were classified as foods and drinks high in fat, sugar and salt, 22% were products from the 'Meat, Fish, Eggs and Beans' group and 20.7% were from the 'Bread, Rice, Potatoes & Pasta' group. There was a smaller percentage of foods from the 'Fruit and Vegetables' (9.0%), 'Other' (6.4%), 'Milk and Dairy Products' (5.5%) and 'Fats and Oils' (2.0%) groups (Table 17). Differences were observed in the types of foods being promoted across season (P<0.001); with less 'Fruit and Vegetables' promoted in the summer (4.1%) and more 'Milk & Dairy' products were promoted in the autumn (10.7%) (Table 17).

Table 17: Food types promoted online in the ROI across season*

Food type	Total		Spring		Summer		Autumn		Winter	
	N	%	n	%	n	%	N	%	N	%
All products	786	100	155	100	169	100	262	100	200	100
Foods and drinks high in fat, sugar & salt	270	34.4	58	37.4	45	26.6	83	31.7	84	42.0
Fats, spreads & oils	16	2.0	6	3.9	3	1.8	4	1.5	3	1.5
Meat, poultry, fish, eggs, beans & nuts	173	22.0	26	16.8	47	27.8	49	18.7	51	25.5
Milk, yoghurt & cheese	43	5.5	10	6.5	4	2.4	28	10.7	1	0.5
Wholemeal cereals & breads, potatoes, pasta & rice	163	20.7	34	21.9	43	25.4	58	22.1	28	14.0
Vegetables, salad & fruit	71	9.0	16	10.3	7	4.1	30	11.5	18	9.0
Other *	50	6.4	5	3.2	20	11.8	10	3.8	15	7.5

* Spring: March-May; Summer: June-August; Autumn: September-November; Winter: December - February. a 'Other' includes coffee, tea, water and low-calorie soft drinks. Low calorie soft drinks' energy content ranged between 0.06kcal - 20kcal per 100ml. Difference across seasons Chi-squared=69.204, P=0.0004

Nutritional Quality Scoring

Vegetables, salad and fruit had the highest mean Nutritional Quality Score followed by milk, yoghurt and cheese foods. Fat, spreads & oils and the foods and drinks high in fat, sugar and salt had the lowest Nutritional Quality Score (Table 18).

Table 18: Food types promoted online in the ROI across season*

	N	Mean (SD)
All products	1559	2.08 (0.55)
Foods & drinks high in fat, sugar & salt	469	1.68 (0.46)a
Fats, spreads & oils	30	1.60 (0.13)a
Meat, poultry, fish, eggs, beans & nuts	388	2.11 (0.39)b
Milk, yoghurt & cheese	90	2.06 (0.60)b
Wholemeal cereals & breads, potatoes, pasta & rice	325	2.13 (0.36)b
Vegetables, salad & fruit	136	2.77 (0.23)c
Other	121	2.73 (0.52)c

*ANOVA value $P<0.001$; unlike letters significantly different $P<0.05$

There was a significant difference ($P=0.035$) in the mean Nutritional Quality Score of foods on promotion by season (Spring 1.99 SD 0.55, Summer 2.14 SD 0.53, Autumn 2.06 SD 0.56, Winter 2.00 SD0.57. The quantities of foods in the three traffic light categories per season were 35.7, 34.6, 29.6% (Spring), 26.4, 39.8, 33.8% (Summer), 30.9, 34.9, 34.2% (Autumn) and 28.4, 37.7, 33.9% (Winter) for red, amber and green respectively.

Summary

What types of promotions were most common?

The most common online price promotion was price reduction (40.6%). The greatest volume of Top Offer promotions were advertised during the autumn.

What types of foods were on promotion relative to the food pyramid?

The most frequent food group promoted was foods and drinks high in fat, sugar and salt (34.4%), a clear overrepresentations of these foods especially in the winter (42%). Fewer 'vegetables, salad and fruit' were promoted in the summer (4.1) and more 'Milk, yoghurt and cheese' products were promoted in the autumn.

Interviews with retailers, organisations and public health stakeholders

Three themes were identified from the interviews with stakeholders

- Importance of health in promotional strategies
- Profit before health
- Policy engenders action.

Importance of health in promotional strategies

The majority of retailers (five out of eight) and all public health stakeholders recognised the centrality of health in terms of business strategy and public good and retailers described their contribution to health through increasing choice of healthy products, placing notable focus on fresh produce (fruit and vegetables), and product reformulation.

The majority of participants (11 out of 12) reported that health has become a key priority area for both satisfying consumer demands and adhering to calls to action from the government relating to labelling, product reformulation and voluntary codes of practice. The majority of retailer representatives reported that the healthiness of their promotional offering was perceived as a means of gaining competitive advantage. Retailer representatives indicated that they were strategic in terms of their rationale for making decisions on promotions, particularly in terms of health promoting strategies:

> *"We would look at what the overall strategy for the business is … If we want to be seen as the healthy food destination, we have to include healthy foods in the promotions."*
> *[Retail Organisation, Marketing and Communications #6]*

Retailer representatives reported using of a variety of different promotional approaches including 'loss leaders'; significant price reductions on unfamiliar or premium products; reliance on fruit and vegetables promotions to get customers to enter the store. Interviewees reported that they excluded volume-based promotions on less healthy product categories but reported that they did use price promotions on these items:

> *"Our* [fruit and vegetables promotion] *has always really been a good footfall, driver for us … If we have a new product in our range or an obscure piece of fruit or veg that the Irish market wouldn't be used to, we would normally promote it as part of our … offering … It affords us the opportunity to …* [make available a] *meat offering at extremely competitive prices… A lot of the soft fruits are very, very expensive and we would reduce the price point*

to where they are an affordable healthy option for all customers." [Retail Organisation, Marketing and Communications #1]

"Three for €2 offer, that we then change the variance on this depending on the [promotional] cycle ... It's something that we have had now for a year and a half, and it's one of our most important offers in relation to health. We don't do any 'buy one get one free', we do 'price downs' on any of the less healthy items." [Retail Organisation, Marketing and Communications #2]

Public health stakeholders recognised retailers' recent focus on highlighting fresh food among their retail promotions:

"In the last number of years, you notice that ... retailers have introduced, you know, the five kind of best buys or five or six kind of items that they will give at a fixed price regardless of the cost to them; and all of those items invariably either fruit or vegetables ... and they have been doing that ... quite a lot now and visibly quite a lot ... I have the feeling that the consumption of fruit and veg has increased probably as a direct result of that kind of a push by them." [Public Health Stakeholder #3]

Meanwhile, retail trade association representatives referred to how retailers stock their stores in terms to increase the choice of healthy product varieties:

"They've changed the range they would have in their stores as a result of healthy eating trends so that would see a lot more in terms of options." [Trade Association #1]

"To help customers live healthier lives many of our members have removed sweets and chocolate from their checkouts and have increased their healthy and nutritious food range across their stores, including convenience stores." [Trade Association #2]

Retailers who reported offering a retail setting conducive to health commented on how this research served to encourage them to review promotions-from a health perspective:

"It's great to have this independent piece of research to classify it from a health perspective. So, we would look at promotions from a healthy or unhealthy, higher fat, salt and sugar perspective as well." [Retail Organisation, Corporate Responsibility and Government Relations #7]

While retailers welcomed the research, the results of the audit led a small number of retailers to comment on the limitations of additional product reformulation to shape the nutritional profile of food on offer:

> *"We've done as much reformulation as we can across products but we would now look at rebalancing the ranges – we might be in a position to have more different products and some of them being healthier than we would have been a number of years ago in certain categories."* [Retail Organisation, Health Affairs #1]

Profit before health

Interviewees noted that food retailers must consider commercial decisions. The majority of retailers reported how incorporating health into their business model had a corresponding benefit of increased footfall across their store. Retailers also demonstrated responsiveness to consumer demand by including a greater range of healthy food and drink items among their product ranges. Public health stakeholders vocalised a need for retailers to locate healthy foods prominently throughout the store to make healthy choices more accessible and visible.

Interviewees reported that the routine shopping behaviours of consumers and their feedback played an influential role in the development of promotional strategies. Both trade association representatives discussed how they perceived that promotional offers provide a mechanism for their shoppers to access food items they regularly buy at a lower cost. Representatives indicated that retailers were motivated to increase the profitability of their business model and reported that it is clear that retail promotions are useful to guide consumers into and around the store, with particular merit in increasing footfall to under-shopped areas e.g. regular aisles in-store:

> *"We have increased our promotional activity by about 200 lines … That's purely based on looking* [at] *competitors and making our service more competitive; and also it would be to do with ambiance … to try and draw more people towards the centre of the store."* [Retail Organisation, Marketing and Communications #5]

To meet this objective, retailers relied not only on what it is they want to promote, but were also informed by customer feedback - and the needs of the business:

> *"It* [decisions about what to promote] *would be informed by consumer insight. It would be informed by a number of different challenges … to grow certain parts of the business … increase footfall into the store …"* [Retail Organisation, Health Affairs #1]

Retailers confirmed promotional strategies are concerned with satisfying consumer appetites for health and treat foods, value and business returns:

> *"We completely accept that we have a role to play with regard to consumer health but it is marrying the fact that consumers do want to buy the treat products as well once in a while ... Over the last couple of years, we've really looked at ... investing in the healthier products and investing in those fresh products ... Yes, we definitely have a role to play from a consumer health perspective but at the end of the day we're also in business."* [Retail Organisation, Marketing and Communications #6]

> *"It is a plus for them* [food retailers] *to be considered to be engaged in promoting a healthy lifestyle ... But, at the end of the day what this is about is it's about their bottom line and achieving their retail targets. But those retail targets aren't broken out in terms of an objective to see a higher footfall or higher throughput or higher purchasing of the healthier items. It's more that the concept of being healthier or being ethical in supporting health for the public is a plus..."* [Public Health Stakeholder #2]

Importantly retailers reported that the retail format[2], for reasons of location and store size, can limit the retail promotions that are practical to meet the demands of consumers. This was particularly notable from the low number of fruit and vegetable promotions, in some retail (convenience) formats being compounded by the over-representation of high fat, sugar and salt product categories available and routinely purchased in the convenience sector:

> *"I'm 100% not surprised with the food and drinks high in fat, sugar and salt because the majority of our stores would be convenient and forecourt and that is what they would purchase absolutely. As much as ... we are offering the healthier options within ... sometimes they want a quick snack and go."* [Retail Organisation, Marketing and Communications #3]

> *"The convenience store mightn't have been the place you would have immediately thought of to buy your fruit and vegetables. But ... it's because the retailers have looked at the promotion of it and probably now are stocking more. The turnover is quicker so it's a more attractive proposition and they're bundled – two pieces of fruit or three pieces of*

2 It is important to note that some of the convenience retailers operate different store formats, offering local, neighbourhood stores and supermarket-equivalent stores.

fruit for a certain price point. I think that's helped to make it a more attractive proposition." [Trade Association #1]

Retailer representatives reported having an impact on buying decisions by purposefully locating increased healthy food promotions in valuable, prominent, high-traffic areas:

> *"The end of aisle promotion: it's the one where the retailer is trying to establish themselves with the customer that they are good value; they have good prices for the things they want to buy today. But I do think that some of the things that have happened more in recent times is that fruit and vegetables have become much more of a promotional product and it's a very attractive product to have so it is prominent at the start of the store."* [Stakeholder #1]

However, public health stakeholders were less convinced about the effectiveness of locating healthy food and drink products in prominent locations when less heathy promotions were similarly situated given the profitable and routine use of such locations for high fat, sugar and salt food products:

> *"... There now is practically a whole aisle that is confectionery. It's a wall of chocolate and sweets, where it used to be in half the space. I'm sure there is a good reason for doing that; probably to do with sales. There doesn't appear to be any moderation. You can skip that aisle, but then they have them at the end of other aisles ... biscuits at the end of the freezer section. You can't get away from it."* [Public Health Stakeholder #3]

This discord between the retailers and public health perspective was also apparent in the nutritional quality of food and beverage items included the printed promotions materials which retailers use to supplement the visibility and accessibility of their promotions and about which public health stakeholders were less confident:

> *"Within the supermarkets, they send mini promotional magazines with the* [news] *papers ...* [M]*any of the things in there, are not core dietary items ... It's really the promotions are not in relation to the* [Food] *Pyramid. Some promotions are on fruit and veg, but I'm not sure that that is the one they get to get people through the door ... Maybe it is, and some do fruit and veg promotions, but I'm not convinced that is what people come to the supermarket for. Maybe they do..."* [Public health stakeholder #3]

The public health view was very clear that printed promotional materials presented a valuable opportunity to normalise healthy choices, and expressed how every opportunity should be taken to exploit every marketing opportunity to present *only* the healthy choice.

Public health stakeholders noted how the prominence afforded to less healthy food promotions and abundance of less healthy products included in promotional literature could be easily substituted by retailers presenting the healthier choice to shoppers first thereby nudging (encouraging) them to make them go with the easy choice which is also the healthier choice. In other words, where such choices are prominent or within their immediate choice range, they didn't have to make an extra decision around it.

> *"I think retailers are hesitant in relation to, kind of, their role to push more healthier food, because you know, their prime concern is basically the shareholders and sale and profit and so on … But if you look at their own initiatives, they go on a kind of steady state position of changing consumer behaviour without being seen to push that aspect … So retailers have a role … but it's* [a] *steady step approach, rather than (a) revolution."* [Public Health Stakeholder #3]

Policy engenders action

This theme recognised the awareness of all interviewees of the ongoing development of a voluntary code of practice (51) to guide retail environments as healthy settings. Of note was the appetite among public health stakeholders for stronger future direction from policy makers. Retailers did not express the same view.

Interviewees were clearly aware that governmental policies and regulation in the areas of retail environments generally and food promotions and public health specifically were to be expected in the future:

> *"Obviously we are looking down the line at Sugar and Salt Taxes that are due from the government. Our* [fruit and veg promotion] *is what we are really trying to promote in terms of our healthy message."* [Retail Organisation, Marketing and Communications #1]

For their part, there was a sense among retailer representatives that government agencies are pushing against an open door when it comes to voluntary heathy retailing policies:

> "[Retail trade association and its members] *acknowledge that food promotions can be used to actively promote healthy dietary behaviours. That is why we are actively working with the Department of Health to produce a voluntary code that offers clarity to consumers and makes healthy choices simple, and why we promote and encourage healthy food ranges and making healthy choices within store and online."* [Trade Association #2]

However, there was consensus among the public health interviewees of the need for an evidence-informed statutory code of practice for industry around food marketing, promotion and sponsorship, not least because current governmental policy missed the opportunity to prioritise the retail sector as a primary influencer and agent for change:

> *"I just looked at the obesity policy there because ... it's a year since it was published ... and actually the reference to 'retail' is quite minimal actually which is, again I would use the word disproportionate in the sense of the huge influence that this sector has to play in terms of food purchases and in terms of people's food behaviour; so to my mind it actually seems quite odd that there isn't a specific or a large section you know devoted to this particular sector ..."* [Public Health Stakeholder #4]

> *"The code of practices are voluntary, which in turn really doesn't compel the industry to go as far as necessary. So, if the evidence ... based on evaluation of the code ... shows that still, we haven't made that change, we really should change that from voluntary to compulsory mandatory."* [Public Health Stakeholder #3]

> *"I think putting those codes on a statutory basis is actually the only thing that we can do ... I think that we as policy makers and the government really need to push that kind of thing to support consumers as individuals to make the healthier choice, 'cause at the end of the day you make the choice individually when you go in there into the retail environment where currently the retailers and the retail environment makes it very difficult for individuals."* [Public Health Stakeholder #2]

Of particular note was the absence of any call for stronger regulation from the retail organisation representatives. They considered it was sufficient to respond to consumer expectations and competitor insights alongside product sourcing and reformulation efforts to satisfy future policy making in respect of food taxes.

Complementary to a statutory code of practice for healthy promotions in food retail outlets, there was a call for consistency of approach across other settings to which the consumer has access:

> *"Other things is the wider environment itself, not just the retail environment, because I mean you don't just step into an island ... you have to live in the whole of the ... environment. So there has to be improvement in relation to the promotion outside of the*

retail outlets[3]*… The emphasis is only on what happens in the retail outlet itself."* [Public Health Stakeholder #3]

Given the recent introduction of a voluntary code of practice in Ireland, public health interviewees called for existing policy commitments to be implemented by every stakeholder to contribute to improving public health outcomes:

> *"There are a lot of policies that can be reinitiated, done, implemented* [for example, front of pack labelling and reformulation], *that will assist the retailers and will assist the public at the same very time, so it's a win/win situation, not a lose/lose situation."* [Public Health Stakeholder #3]

These representatives considered an obvious starting point to be the consistency of information provided to consumers, where currently there has been some perceived resistance to applying a standardised approach to food labelling:

> *"I think a general comment would be around general food labelling. There is the traffic light labelling system and other general labelling … We have a mish-mash of different labelling systems across our supermarkets which leads to ongoing consumer confusion … It cheats a lot of people out of healthy decision making."* [Public health stakeholder #3]

Public health stakeholders reported that there was much scope for improved food labelling as a vehicle for better informing consumers about their food choices:

> *"Change front of pack legislation … improve the front of pack kind of information to the consumers. I think retailers would welcome that. In the UK the example of that has been the colour coding on the front of their pack and I think … that will assist the retailers as well as the consumers."* [Public Health Stakeholder #3]

Public health stakeholders identified the government as having a huge role to play in this agenda and argued that health lobbyists need to be as persuasive as the food industry in emphasising their public health case and proposing solutions to the retail sector:

> *"That's the problem with public health … we actually think that because our argument is right, our argument is moral, then everyone should listen to us, but … it has to go a little bit further than that. You always have to properly show an actual solution … that's missing … and retailers always respond to these things."* [Public Health Stakeholder #3]

[3] Promotion outside of the retail outlet refers to restaurants, cafés, hoardings, and broadcast media.

Summary

The interviews with different stakeholders about retail food promotions uncovered different perspectives and foci for future development from retailers and public health stakeholders. The interviews attempted to frame retailers' articulation of what 'health' means alongside the relevance of promotional offers in today's market.

Health is an important perspective for retailers and public health stakeholders but decisions are commercial: Retailers attach importance to the profitability of their promotional offer, but health is also an important driver in a business model where they seek to listen to, and meet, consumer demand. Health was defined in terms of food commodities i.e. water, fruit, vegetables, meat, and raw foods e.g. dried fruit, nuts and berries. Retailer representatives similarly considered health as having a particular focus on individual nutrients of public health interest e.g. fat, sugar and salt, and associated taxes. In more broadly encompassing health, retailer representatives spontaneously referred to their product reformulation efforts to increase healthy nutrient profiles; removing confectionery from checkouts; and understanding visually prominent health logos. Occasionally, locally sourced foods was considered an interchangeable term for healthy foods. Retailers also attach caveats to healthy promotions in terms of these needing to be set at the right price while simultaneously maintaining access to 'treats'.

Voluntary/statutory promotional codes: All stakeholders were aware of the voluntary code of practice to drive responsible promotional marketing standards and encourage healthy dietary behaviours. Results showed that the voluntary approach is reportedly supported by retailers, while public health stakeholders are lobbying for a statutory code as the ultimate mechanism by which to compel meaningful change. Public health stakeholders believe the time is right for more challenging and aspirational targets which should be monitored and publicly reported.

Consumer Survey

Profile of respondents

Demographic information for the sample of survey respondents (n= 948) is included in Appendices A2–A7. In summary, the sample comprised 73.6% females and 26.4% males; 70.6% were aged between 35 and 64 years; approximately half (50.3%) of the sample was married or in a registered same-sex civil relationship. The majority (55.3%) of respondents had children living in the household. Respondents were predominantly working full time (40.7%). Three quarters (74%) shopped once or twice per week and 60% conducted a further one, two or three top up shops each week. While shopping on promotion was an important element of the grocery shop for almost all (90%) respondents, typically the majority (64%) reported spending less than €20 on promotional food shopping per week. The respondents demonstrated a high reliance on a shopping list (64%).

Table 19 presents respondents’ views as to whether they would like to see a selection of 27 food items promoted more or less frequently. The top food items that respondents wanted to see more of on promotional offer were the fresh daily staples fruit (92.5%), vegetables (92.5%), dairy products (83.6%), fresh meats (80.2%), and fish (70.2%). Breakfast cereals (66.9%), plain bread (63.4%) and starchy carbohydrates (62.5%) are also more frequently wanted on promotional offer as are oily fish (56.9%), fats and oils (56.7%) and drinks such as still, sparkling and tonic waters (54.3%). The items that respondents wanted to see less frequently on promotional offer were savoury pies (85.5%), tea breads (81.5%), ready meals (76.5%), cakes and pastries (75.7%), biscuits (70.4%), confectionery (69.9%), non-meat alternatives (69.3%), take-home savouries (67.7%), chips and other potato products (67.4%), soft drinks (66.7%) morning bakery goods (65.3%) and sausages (61.0%).

Table 19: Respondents’ ratings of the food promotional areas by whether they would like to see them more or less frequently on promotional offer

	Less frequently N (%)	More frequently N (%)	Total N (%)
Fruit			
Vegetables	148 (8.2)	1652 (91.8)	1800 (100)
Starchy carbohydrates*	671 (37.5)	1117 (62.5)	1788 (100)
Plain bread	654 (36.6)	1134 (63.4)	1788 (100)
Oily fish	769 (43.1)	1016 (56.9)	1785 (100)
Fish	532 (29.8)	1255 (70.2)	1787 (100)

Meat (unprocessed)			
Non Meat Alternatives+	1234 (69.3)		
Dairy products	297 (16.4)		1808 (100)
Breakfast cereals	596 (33.1)	1202 (66.9)	1798 (100)
Fruit juice and smoothies	913 (51.2)		1783 (100)
Drinks#	818 (45.7)	973 (54.3)	1791(100)
Soft drinks	1188 (66.7)		1780 (100)
Meat and fish products (processed)	996 (55.6)	796 (44.4)	1792 (100)
Cured meats	927 (52.3)		1773 (100)
Sausages	1087 (61.0)	694 (39.0)	1781 (100)
Ready meals	1355 (76.5)		1771 (100)
Savoury pies	1519 (85.5)	258 (14.5)	1777 (100)
Chips and other potato products	1199 (67.4)		1778 (100)
Soups and sauces	894 (50.3)	882 (49.7)	1776 (100)
Fats and oils	776 (43.3)		1794 (100)
Take home savouries	1202 (67.7)	575 (32.3)	1782 (100)
Confectionery	1238 (69.9)		1771 (100)
Tea breads	1444 (81.5)	327 (18.5)	1771 (100)
Morning bakery goods	1160 (65.3)		1777 (100)
Biscuits	1258 (70.4)	528 (29.6)	1786 (100)
Cakes and pastries	1344 (75.7)		1776 (100)

* Includes pasta, potatoes, rice etc.; #Includes tea, coffee, hot chocolate etc.; + Includes Quorn and soya-based meat replacements; ~ Includes savoury snacks and crisps

Consumer profiles

Shoppers were categorised by what they want to see on promotional offer and also what they purchase. The three types of shoppers identified based on what they want to see on promotional offer are:

1. *Promotional Health Rounded.* This shopper types wants to see a stable range of healthier foods on promotional offer; compared to the other two shopper groups. More specifically, they want more fresh meats, fish, dairy, fruits and vegetables on promotional offer. Yet they also want to see promotions on oils, still and sparkling waters, plain breads and starchy carbohydrate foods (rice, pastas, etc.). In comparison to the other two shopper profiles; these shoppers want a more rounded approach to promotions; not only with more staple foods one offer but more fresh foods. These shoppers were the most health conscious, the least deal prone and more likely to engage with shopping lists during a shop. They also tended to spend significantly less during their main or top-up shops. It is encouraging that this the largest group (57.6%) placed greater importance on healthier foods being placed on promotional offer.
2. *Promotional Deal Prone.* This group of shoppers (22.6%) are less discerning about which food products are on promotional offer. They wish to see all food types on promotional offer except for savoury pies and non-meat alternatives. They are the only shopper group who want to see less heathy foods like confectionery and biscuits on promotion. This type of shopper exhibited hoarding behaviours around food products by having the cupboards and shelves fully provisioned. This type of shopper could be explained as one who wants to do the 'big shop' and would want to carry out their shop by identifying as many promotional foods offers as possible. Shoppers in this group tend to be more deal prone, though interestingly they also are significantly more health conscious than other shoppers; suggesting that the satisfaction of finding a good deal overrides choosing healthier promotional options.
3. *Promotional 5-A-Dayer.* The third type of shopper was the smallest group (19.8%) and only wanted to see more fruits and vegetables on promotional offer. This shopper type is slightly less health conscious but also slightly less deal prone than the other types. They also tend to be the least engaged with shopping lists, which could explain why they may spend the most during main and top-up shops. These shoppers may be less self-regulatory around promotional offers in practice. It may be that there is some form of "halo" affecting their intention to choose healthier foods on promotional offer.

Shoppers were also classed based on the promotional food offers they purchased. Three types of shoppers were identified:

1. Daily Staples Purchasers. This was the largest group (43.5%) and shoppers in this group had a higher probability of purchasing mostly daily staples such as starchy carbohydrates, breakfast cereals, plain breads, fish, fresh meats, fruit and vegetables. However, these shoppers do have a slightly higher chance of purchasing confectionery or 'treats' on promotional offer, highlighting that even the daily staples shopper engages in treating activity.
2. 5-A-Day Purchasers. These shoppers (35.6%) purchased more fruit or vegetables on promotional offer. They were less likely to exhibit impulsive shopping tendencies. This group was more likely to use a shopping list than any of the other groups; and they tend to be more health conscious and not as focused on promotional deals.
3. Deal Prone Purchasers. These shoppers (19.1%) have bought nearly all food types on promotional offer, except for non-meat alternatives. They generally were more impulsive when shopping, more focused on promotional deals, not as health conscious and less likely to use shopping lists; suggesting that these shoppers may not be as concerned with the nutrient quality of the food, rather they may be more concerned that it is on promotional offer. This shopper type is more likely to spend the most on both main and top-up shops.

Summary

It was clear that consumers' motivations for buying food on promotion is variable as consumers engage differently with promotional food items depending on the product category on promotion and the consumers' impulsivity, health consciousness, deal proneness and use of shopping list.

Accompanied Shop

Profile of participants

The profile of those who participated in the accompanied shopping exercise is presented in Table 20 (n=48). In summary, 87.5% of the sample was female, with 45.8% having between one and three dependent children within their household. Two-thirds (66%) of shoppers were from lower socio-economic groupings (C2DE).

Table 20: Profile of participants in accompanied shop

Profile	N	%
Gender		
Male	6	12.5
Female	42	87.5
Dependent Children		
None	26	54.2
1 child	6	12.5
2 children	14	29.2
3 + children	2	4.2
Socioeconomic Group		
C2DE	33	66.0
ABC1	17	33.0
Household composition		
1 person	5	10.4
2 3 people	26	54.2
4+ people	17	35.4
Pre shop promotional propensity score *		
High	20	41.7
Low	28	58.3
Responsibility for shop		
Main shopper	41	85.4
Joint responsibility	7	14.6
Frequency of main shop		
Once a week	26	54.1
Twice a week	17	35.4
More than 3 times a week	9	18.5

Day of week for conducting main shop		
Monday	9	18.8
Tuesday	2	4.2
Wednesday	1	2.0
Thursday	5	10.4
Friday	12	25.0
Saturday	9	18.8
Sunday	10	20.8

*Note: Lichtenstein et al. (52)

Pre-shop and post-shop surveys

Shopper, while not representative of the ROI population, were purposefully recruited to understand different shopping behaviours in real life situations and to identify the motivational and decision-making factors influencing their food choices within a grocery retailing environment. The majority of shoppers had a high capacity to act independently: for example, 97.9% knew what items they were going to buy in-store prior to the shop, with 85.4% of the sample stating they had a mental or written shopping list, with mental shopping lists being more evident. Sixteen per cent of participants received promotional coupons prior to their shop. The anticipated spend of participants prior to their shop varied (Table 21) and the majority of the sample (72.9%) spent what they had expected prior to the shop. Interestingly, on reflection of their shop, 68.8% reported they made one purchase they had not anticipated, while remaining within their expected budget. On average, participants spent a total of €78.10 with promotional spend accounting for an average of €4.12. Overall, 64.6% of the sample perceived their shopping to be healthy and only 12.5% perceived it as unhealthy. Results showed that, on average, shoppers displayed a positive mood pre- and post-shop, suggesting that shoppers' moods remained consistent throughout the research exercise. Importantly, 14.5% of shoppers specified choosing to shop at a particular retailer due to their promotional offers. Other reasons for selecting the store included the convenient location, low prices and value for money.

Table 21: Shopping behaviour summary

		N	%
Do you know what you re going to buy today?	No	1	2.1
	Yes	47	97.9
Do you have a shopping list with you today?			

How much participants planned to spend	0-40 €		
	41-80 €	9	18.8
	81-120 €	17	35.4
	120+ €	5	10.4
Differences between planned and actual spend	Over what was planned		
	Same as what was planned	35	72.9
	Under what was planned	1	2.1
Bought something they had no intention to buy	Yes		
	No	15	31.5
	M	SD	
Participant spending & promotions	Total spend (€)		
	Promotional saving (€)	4.12	7.43
	N	%	
Perceived healthiness of shop	Healthy		
	Neither healthy or unhealthy	11	22.9
	Unhealthy	6	12.5
Mood/feelings of participants (range 10 70; (t (47) = 1.29, p .21)			
	Affective Mood Pre-shop	24.69	7.86
	Affective Mood Post-shop	23.63	8.30

Results from the accompanied shop showed that participants reported being influenced by factors relating to health, price, quality and convenience during their grocery shop. Shoppers reported purposely avoiding aisles or product categories (e.g. confectionery aisle); swapping to more healthful alternatives in less healthful category (e.g. popcorn instead of crisps) and buying fruit and vegetables. In relation to price, shoppers sought out promotional offers; assessed the value of products by weighing up price versus the quantity or looking at the unit cost and were willing to trade down from brands to supermarket own brands to make a cost-saving. Shopper discourse on quality revealed that shoppers sought out the freshest products with the longest shelf-life; a small minority of shoppers chose to buy organic produce where possible and some shoppers selected to shop locally at the butchers, delicatessen or farmers' market as they had greater trust within the supply chain. Finally, in relation to convenience, shoppers reported making familiar and habitual purchases to save time deliberating over products in store and relied quite heavily on their freezer items (e.g. frozen vegetables and pizzas) to ensure the home was well stocked in case of emergency meals needing to be prepared.

General attitudes towards food retail promotions

In general, the majority of shoppers (42 out of 48 shoppers) did avail of at least one promotional item during their grocery shop and that 36 of the 48 shoppers stated that they would typically avail of promotional offers. Overall, shopper discourse identified a positive attitude towards food retail promotions with the majority of the sample (36 out of 48 shoppers) claiming that they do typically buy items on promotion during their grocery shop.

Results revealed that in general shoppers had positive attitudes towards promotional offers primarily due to making a cost saving on regular items, for example, fruit and vegetables. The majority of participants discussed how promotional offers allowed them to make substantial savings and helped to reduce the overall cost of their shopping basket by "*making your money go further*" (P11).

> *"I'd say 9 out of 10 times…I go for something here* [promotional fruit and vegetable aisle]; *today it's all summer stuff and the weather is good. I plan my food for the week so I'll be making salads for the week."* (P02)

A number of participants discussed how they liked to avail of promotions "*if it is something they already buy"* and if it was on their shopping list (P21).

> "Y*es, only to buy what I need or that I like. It has to be a good price and something I like*" (P13)

Also, participants displayed positive attitudes towards the storability of promotional offers which mean cost-savings in the longer term allowing shoppers the opportunity to stock up on items they like and use regularly:

> "Yes, as a stocker-upper it saves money and reduces the frequency of remembering to buy" (P15)

A small number of participants highlighted how promotional offers enabled them to buy brands which they perceived as better quality, allowing them to get "*a bit of a bargain"* (P37).

> *"Obviously to save money, if it's a brand name over a supermarket's own brand then that's probably going to sway you too."* (P03)

Finally, some shoppers discussed how promotional offers meant they could access healthy food at an affordable price, buy certain stock at a lower price because it was in season, as well as attain the buzz of a bargain.

> "*There would always be something and some weeks... they're brilliant, if it's Christmas or Easter they pack the main veg and include carrots, breads, all in it. Or if it's back to school for a few weeks they'll have the apples and the satsumas and stuff.*" (P12)

However, results did reveal some negative attitudes towards promotional offers relating specifically to their value. A few shoppers discussed how they would have to take time in-store to work out whether or not they were making a cost or value saving which would benefit them.

> "*I'd have to weigh up the quantity versus the price and then decide from there whether it's worth it or not. If you look at the cornflakes, ahem, we'd normally buy the big pack if it's really good value 3.50 for a 1kg pack but when you look at the other one, ahem its 2.19 for 450*[g]. *So you do have to look at the prices to say what you know X is going to cost me and Y is going to be whatever. Which one is best value?*" (P36)

Just over a quarter of shoppers discussed how a number of items on promotional offers were not attractive to them and therefore might get wasted if purchased.

> "*There was nothing that really stood out. I tend not to be overly attracted by special offers unless I know they're going to be of benefit to me. I really do try to not buy too much, I hate throwing stuff in the bin.*" (P24)

The nature of promotional offers and how shoppers are lured in by the 'special offer' price tags was also highlighted. Nearly a quarter of all the shoppers stated that they took time in-store to work out the true cost of the promotional offer indicating a lack of trust with the retailer.

> *"Here's a complete trick the supermarkets play; this one is 47 cents a litre, this one is €20.40 a kg; you need to have a maths degree to figure it out. You see this all the time, you get it on special offers, and then when you read the regular price next to it; it's actually cheaper to buy that." (P15)*

The temptation to purchase items on promotional offer was also perceived as difficult to resist when less healthy items were on offer.

> *"It can be a bit overwhelming when you come into a shop and you're bombarded with offers and the majority of it is junk when you actually take a minute or two to look at it." (P35)*

A small number of shoppers expressed how promotional offers focused on volume which tended to either not be applicable to smaller households or had the potential to lead to food waste.

> *"More fancy cheeses but it's three for a tenner and I don't need that much cheese, so it doesn't apply to me." (P03)*

Results highlighted that while food retail promotions provide shoppers with the opportunity to make cost and value savings, issues concerning their healthfulness, real value and environmental impact persisted. Both positive and negative attitudes revealed that factors other than price and cost-saving influence consumers' promotional purchasing behaviour.

Results from the post-shop survey identified a range of strategies suggested by the participants as to how retailers can promote healthy foods. All suggestions were summarised and grouped under key themes displayed in Table 22.

Table 22: Suggested promotional strategies

Themes	Explanation
Prominence	
Personalisation	Tailor promotional discounts to the needs of the buyer e.g. discounts based on loyalty card information
Trial	Introduce in-store sampling or demonstrate how to cook recipes using healthier ingredients
Inspiration	Provide recipe solutions or promotional dinner bundles
Price	Make healthy food cheaper
Packaging	Emphasise the healthiness of items on the front of pack

The influence of supermarket food retail promotions on the healthfulness of a grocery shop

Among 42 of the shoppers who bought or made reference to promotional offers, six themes relating to the influence of health on promotional buying behaviour were identified:

Theme 1: Bargains that benefit the household budget. Results revealed that the majority of shoppers were price sensitive and were conscious of the cost of items throughout their shop; consequently, promotional offers were used as a mechanism to reduce the costs and manage the household budget.

Shoppers discussed how they used promotional offers to achieve good value for money by shopping between different retailers depending on their offers.

> "*I'm not buying (brand name) here cause they're 1.69€ for 6 and I can get them in* [Retailer name] *for 1.50 for 8 so that's a reason not to buy them here*." (P01)

> "*A lot of what we buy is determined price wise, what I pick up. Like sometimes you're better off getting a brand item because its better value and it tastes better than the cheap brand*." (P21)

A few shoppers discussed how they would read the retailer discount supplements prior to their shop or go online to investigate the best deals to ensure they make a decent saving.

> "*My brother in law says I 'eat' the paper for the* [retailer] *supplement. It's an Irish thing. The first thing you do on a Saturday is check the supplement*." (P02)

Interestingly, while shoppers reported seeking out low prices they also displayed a propensity to use promotional offers as a means to access branded products at a lower cost. If a recognised brand was on offer at the same price as a store brand then shoppers displayed a greater tendency to buy the branded item. For a number of shoppers it was noted that when a branded item was on offer they tended to buy more of the product, increasing the overall volume of their shop.

> "*Ahm these are the ones I always buy, I just, the kids eat them and they're good value. Although the* [brand] *are on 3 for 3 Euro. I might get those actually because they're normally more expensive so, and you get the different flavours there you see, and it works out the same price, more or less*." (P17)

> "*I'm getting the brand; it's usually €4 something. Its 2.49, that's good, so I will get two boxes. That never goes down in price normally*." (P18)

Almost all shoppers availed of promotional items within the fruit and vegetable category for the main purpose of making a cost-saving. Despite the perishability of these items, shoppers discussed how they liked to have a stock of such items in the household as they wouldn't get wasted.

> *"Bananas three for two. I will usually get one bag but if there's an offer on I'll buy extra".* (P18)

> "*The lemons and limes are on offer today at 39c. I always buy them but when they're on offer I bulk up on them even if I have some at home."* (P30)

However, a few shoppers discussed their desire to treat or reward others who they cared for with less healthful items specifically those on promotional offer, as again the monetary saving was justification enough.

"*There is a weekly treat and our other boy, who is only two, has a very expensive taste for [white chocolate brand]. So, hence we stock up with these instead. Two for three – much cheaper!"* (P31)

"*Because it's Thursday we would get the kids chocolate for the weekend but emm generally I would buy whatever's on special offer*". (P17)

Interestingly, a few shoppers justified making less healthy purchases by prioritising the monetary-saving on the product and did not factor health into the decision.

"That's what draws my eye. Ahm salted caramel. I'll do a chocolate marshmallow, so you look at this, you get two packets, and they're 1.50 each and the eight pack brand squares is 4.95. So that's a big difference." (P36)

Theme 2: The buzz of a bargain. Results showed that while the majority of shoppers approached their shop in a routine manner promotional offers provided shoppers with the opportunity to enhance the enjoyment of their shopping experience. Shoppers discussed the novelty of browsing a range of offers to allow them to make a cost-saving.

"You know me; I'll check what's on the ends first. That way I can see what's on special offer. Bargain hunters in our house."(P33)
"I always check the first aisle to see what's on offer. I'm kind of an impulse buyer when it comes to buying things from the first aisle even though they're not on my list. I tend to stick to my list but I am drawn in by special offers when I see them" (P11)

Shoppers discussed how promotional offers provided them with the opportunity to achieve variety in their shop by either trialling new products on an introductory offer or buying products that they wouldn't typically feature on their shopping list.

"*Ahh these are new, smoothie mixes, frozen pineapples and they are on offer - tropical fruit. Oooo these are only 1.50 as opposed to the greener ones that are double the price. Let's go with the* [retailer] *ones. Chopped up frozen fruit - feels like summer.*" (P34)
"*Ah yea, it's the 39 cents offer, so I always go and have a look...Wouldn't normally buy limes but because they're 39 cents yeah they're nice with water or gin and tonic or whatever. But for 39 cents again is probably. I wouldn't normally buy a bag of limes*" (P19)

A few shoppers took time to seek out bargains by hunting through the 'reduced to clear' sections in each food category within the store. No specific product category was identified as having a more persuasive influence over the shopper; instead, shoppers enjoyed the buzz of seeing what they could get at low cost.

"I always look at these little clearance sections because I'm really drawn to bargains. Ahem yea, I'll pick up the [brand name] *even though I would normally never buy* [brand name] *but I know they kind of like them. Ahem, and they're 62 cents for 6 packets so ahem, yea definitely the price would influence me here."* (P19)

"*Ahm I do tend to look to see what's in the reduced section because ahm these things are usually perfectly ok. The date might be up and sometimes you just throw things in the freezer ahm, which is handy."* (P36)

Theme 3: Savvy stockpiling. Results revealed that the majority of shoppers displayed a tendency to stockpile items they typically would already purchase when on promotional offer. These shoppers primarily purchased more items on promotional offer to make longer-term cost savings for their household.

"*I do have a request to get* [brand] *orange for my girlfriend. Again I could buy one but I'll take advantage of the deal there, 2€ for 1 or 2 for 3€. It won't go out of date anytime soon and it will be used. I'm a sucker for those 2 for 1 offers*." (P05)

"Absolutely delighted that my [brand name} *coffee is on offer so I'll just stock up then, get two of these because it is very expensive, normally nearly 7€. 2 for 9€ and that will do me for a couple of weeks."* (P09)

However, results also showed that these shoppers stockpiled items to ensure there was a ready supply of food for other household members to access as and when needed in case of unexpected circumstances or unexpected visitors. Often these types of promotional purchases were made on impulse and justified by the shopper as a means of being more organised by thinking ahead about circumstances which required a reliance on stock from the store cupboard.

"*And I think I'll get just a quick pack of pasta in case 'cause I think that might have been hit over the weekend by my daughter and her boyfriend. I'll get a big one of those as well.*" (P01)

"*Cake we need to get that in case somebody calls in…do you see that sucked in? There's a bit of an occasion tomorrow night, three chocolatey cakes."* (P23)

For those shoppers who took the opportunity to stock up on ambient and frozen foods while on offer not only meant a substantial cost saving but enabled shoppers to provision their household with meal and snack solutions for times when fresh produce was not available.

"*It's the only brand that does an ambient tortellini, everyone else does fresh so you have to use it straight away but this has a shelf life of six months,* [Brand name], *you can have* *in your larder and it takes a couple of minutes to cook up, it's half price so I'm going to get one of each flavour, 2 for 1."* (P11)

"Now I'll always just have a quick look in here. This is the frozen chicken, hash browns, things like that. And I always just look to see if there's any deals because it's always handy to have the likes of chicken nuggets or something in the freezer that if I get home really late from work, I don't have time to cook. I've just seen 3 for €5 which is not bad. It's like chicken fingers, fish fingers, it's all included, chicken burgers, yep. So I'll just grab them chicken fingers and two chicken dippers." (P09)

Interestingly, results showed that shoppers tended to stockpile a mix of both healthy and less healthy items when on promotional offer. Less healthy items included frozen pizza, crisps, chocolate, and jarred sauces while healthier items included frozen stir fry vegetables, meat-free proteins i.e. and frozen fruit.

"*Thinking, ahem, these are three for €3, so they're good value but I'm thinking I will hide, put away a packet of those but ahem, yea, so I'm not worried about getting loads of crisps because they wouldn't binge on crisps but, yea, they're handy to have."* (P19)

"*I'm looking for frozen stir fry, I tend to eat a lot of that if we're exercising after work, late dinner, it's really handy to do a bit of meat, fish - stir fry takes 2 minutes in the pan. There is an offer on the stir fry 2 for €4 so I'll buy the 2 of them, getting €2 off that way."* (P11)

Theme 4: Active avoidance of available offers. Results showed that while a small number (n=6) of shoppers did not buy any items on promotion nearly two-thirds of the sample actively avoided certain promotional offers during their shop. There were several reasons for shoppers' conscious avoidance of promotional offers.

Firstly, often the promotions were not attractive to the shopper as they approached their shop knowing what items they wanted to purchase. These shoppers were inclined to purchase products which they were familiar with. Also, if any of the items on their shopping list were on promotion this was viewed positively, but did not always impact on the likelihood of the product being purchased as it depended on the quantity on offer and whether it would be used.

"There was nothing that really stood out. I tend not to be overly attracted by special offers unless I know they're going to be of benefit to me. I really do try to not buy too much, I hate throwing stuff in the bin." (P24)

Secondly, a minority of shoppers did raise concerns about the potential for promotions on fresh produce to increase levels of household food waste. In addition, researchers observed how a number of shoppers took time to get the 'best date' on such items.

"If I saw an offer I would buy that, but I wouldn't buy fresh food on offer in case I would have to throw it out." (P27)

"I'd usually just check the dates and get one that's a little bit later". (P12)

"I always check the dates. When it comes to meat or fresh goods, I always check the dates … Will buy two of these, one is short dated and the other is long dated … I will make sure I use the short dated one first." (P42)

Thirdly, just over a quarter of shoppers chose to actively avoid certain promotional offers as they deemed them to be unhealthy. When these shoppers were exposed to special offers they reacted strongly by avoiding the offers as best they could. These shoppers tended to bypass specific aisles in the store, for example, the promotional aisle or avoid certain food categories, mainly sweets, in an attempt to be healthy. Despite feeling they were missing out on a good deal these shoppers displayed restraint with the intention of being healthy by physically avoiding or stating that they were bypassing the item for that reason.

"*I'm wondering whether to check what's special offer on the wall or not. Normally it's just special offer junk food so I do try to avoid it." (P25)*

"*Before with the promotions on the chocolate I would always have been drawn into it, I wouldn't necessarily be looking to buy it but I'm dealing better with that lately.*" (P05)

Theme 5: Reliance on regular reductions. Shoppers expected retailers to have a range of products available on regular promotional offer each week. The majority approached their shop expecting to see deals within certain food or drinks categories. Results showed that shoppers primarily and consciously sought out regular offers within two food categories: (1) fruit and vegetables and (2) meat.

"*I always look for the special offers in the fruit and veg so I'm going to get scallions. I'll get red onions and chillies."* (P27)

"*So what I do normally is just go and check if there is something that comes to my mind that inspires me. We can go check the offers in fish and meat and see if something comes into our head.*" (P22)

Within both food categories, some shoppers discussed how they would be willing to replace a similar item within the same food category if it enabled them to avail of the promotional offer instead of paying full price for the item.

"*So, fruit – again I'm kind of sporadic about fruit, it changes around for the kids and if there's any on the specials there.* [Retailer] *have the* [promotion] *where they have certain fruit or veg reduced so it's great. Just going for the cheapest here with the strawberries and then just having a look at the* [promotion] *to see if there's anything … they're usually* *really good value, the problem with these is often I would buy some items that I don't actually use.*" (P31)

"I always stop to see what meat is on offer first of all, because I have salmon, chicken and mince on my list but if there's something else that I think might replace them, then that's ok." (P11)

Furthermore, results revealed shoppers' expectation for items to be on promotional offer and how they would either wait for an item to be in the next promotional cycle or try a different retailer simply to ensure they make a cost-saving.

"*With chocolate, if it comes down to €1.50, I'll go for it but they're charging €3 for a bar of chocolate but I wait until the deals come on.*" (P07)

"*Back down to the biscuit aisle. My kids like the* [brand name] *for school but I only buy them when they're on offer and they're on offer now,* [brand name] *which is normally 3€ but 2€ today, and we always buy these bars,* [brand name], *normally* [retailer] *sell them at 3.39€ but if you buy two packets they are 2.50 so I'm going to buy the two packets."* (P30)

Theme 6: Using deals to dictate dinner. Results revealed that just less than half of the shoppers used promotional offers to help guide what they would plan to eat for one more dinners. By doing so, shoppers either used promotions to inspire them to make a recipe or to help them achieve a more convenient meal option. In the first instance, shoppers typically used promotional offers of vegetables and meats to inspire them with recipe ideas which were within their repertoire. One shopper highlighted the opportunity for promotional offers to inspire healthier dinner options as the monetary saving on the product meant an increased willingness to try it.

"Do you want spinach; it's caught my eye for 49 cents. Do you know I could make curry, because a big pot of curry goes a long way." (P23)

"*Turkey meatballs they're new, but they would attract me: €4. I love turkey but I never really know what I should do with turkey mince possibly putting it into something with a sauce so the meatballs are a good idea. That's just drawn my attention though it's off-list."* (P09)

Interestingly some shoppers indicated that promotional offers provided them with the challenge to think creatively about how they would incorporate the offers into their dinners.

"Ahem, yea, I pretty much try and go for everything that's on offer, because I know I can work my dinners around whatever pesto or jars that are on offer." (P19)

"*I'm not saying I don't eat courgettes, we do eat them but I wouldn't purchase them every week, but because they're on offer, definitely I'm thinking yeah, I'll do a stir fry. I'll likely do a courgette soup so I know, well, I think when I look at them what dinner I'll use these for because it's not something I would buy all of the time but yea, we will eat them.*" (P19)

However, shoppers more frequently used promotional offers to help them achieve a convenient solution at household mealtimes. It was interesting to note the heavy reliance on frozen pizza to provide this mealtime solution.

"Basically I was here the other day and I saw they had this fancy [brand name] *pizza at €2.84 so I'm going to get one of those for a nice ready-made meal for when I get home from work, sometimes I don't have time to cook."* (P03)

Summary

The majority of shoppers displayed favourable attitudes towards promotions primarily due to the cost savings they provide. Shoppers made use of promotional offers as a means of managing the household budget and displayed a tendency to cherry pick offers across a range of stores.

Shoppers enjoyed the buzz of a bargain, relying also on regular reductions meaning that they were not only cognisant of the amount of cost saving they achieved but they enjoyed the act of making the saving.

Overview of results

It is evident from the in-store and online audits that the most frequent food group promoted was foods and drinks high in fat, sugar and salt highlighting a disproportionate ratio of offers when categorised relative to other food groups in the food pyramid. Additionally, the majority of promotional items were classed as having a medium/low nutritional quality score. These results highlight the need to reduce emphasis on low scoring promotional offers and to improve the nutritional quality of medium scoring nutritional offers. The in-store audit highlighted that price-based promotions (e.g. price reduction and multi-buys) are the most commonly available offers. One of the most interesting findings related to the product placement of promotional offers as the in-store audit concluded that the majority of products were located in regular areas and not dedicated promotional power aisles. Together these results signal a change of promotional tactics across the retailers sampled. Results from the online audit provided evidence on the seasonal nature of promotional offers highlighting that autumn witnessed the greatest volume of offers and that winter had the highest volume of high fat, sugar and salt foods. These results signal a relationship between promotions, seasonality and the promotion of high fat, sugar and salt foods.

The principal finding from the stakeholder interviews was that while retailers have shareholders to satisfy in terms of profit from sales, their representatives reported considering health in their business model as retailers seek to listen to, and meet, consumer demand. There was divergence between stakeholders regarding the new voluntary code of practice where public health representatives felt that a mandatory approach would be beneficial in terms of changing behaviour while retailers showed preference for the voluntary approach.

The survey found that consumers displayed a positive attitude towards retail promotions and identified three different types of shoppers based on what they want to see on promotion and what they actually purchase. These shopper profiles could be used to target health messaging to specific consumer groups more effectively to encourage healthful shopping behaviour.

The accompanied shopping exercise revealed the attractiveness of promotional offers for reasons beyond simply their cost-saving, for example, they were used to assist household meal planning and maintain stock levels. These results highlight that opportunities exist to assist shoppers in compiling healthy meals and snacks at home around promotional offers.

Strengths

The strengths of this research lie in the objectivity and independence of the in-store audit, and the novelty and inclusivity of perspectives that informed the findings. Interviewing retailers has been under-used previously to explore promotional activity; no other research has used statistical analyses to identify hidden consumer behaviours when shopping on promotion; and exploring consumer attitudes and perceptions towards promotions is original.

Limitations

The limitations of this research include the fact that not all retailers participated in the in-store audit. In addition, not all promotional activities such as couponing were included within the scope of the in-store audit.

Those who participated in the accompanied shopping exercise displayed a high degree of preparedness and reliance on mental or paper shopping list and self-efficacy.

5 Recommendations

- Encourage retailers to use the food pyramid in retail planning as a means of assessing the proportions of healthy and unhealthy foods on promotional offer
- Encourage retailers to promote food and drink in line with the balance of the food pyramid
    - reduce the promotion of food and drinks high in fat, sugar and salt
    - increase the frequency and prominence of healthy promotions instore and online to encourage their uptake
- exploit volume-based promotions in favour of healthy foods
- Use research data and insights to target healthier food promotions to different consumer sub-groups
- Monitor the types of food and drinks on price promotion
- Promote consumer awareness on how healthy foods on price promotion can be used in meal planning
- Promote consumer awareness of strategies that can be used to shop in a way that supports healthy eating guidelines

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7 Appendices

Appendix 1: Consumer survey

Table A1: Information about measures used in study

Variable	Questions	Score Range	Lower Scores	Higher Scores	Author
Intention		-			Followed guidelines by Ajzen (72)
Attitude	10 questions	10-70	Less favourable attitudes towards foods on promotional offer	More favourable attitudes towards foods on promotional offer	Followed guidelines by Ajzen (72)
Subjective norm	1 question	1-7		More favourable pressures to buy foods on promotional offer	Followed guidelines by Ajzen (72)
Perceived Behavioural Control	6 questions	6-42	Less control buying foods on promotional offer	More control buying foods on promotional offer	Followed guidelines by Ajzen (72)
Impulsivity	4 questions	4-20		More Impulsive	Donthu and Gilliland (73)

Health Consciousness		-			-
Deal proneness	4 questions	4-28		Less favourable deal proneness attitudes (not very deal prone)	Mohan et al (76)
Deal prone purchasers	3 questions	3-15	They don't do much planning	They plan their shop more	Collins, Kavanagh & George (13)
List	6 questions	6-30		More favourable to the use of lists for shopping	Adapted from Thomas and Garland (77)
Food Preparation	3 questions	3-15	Low engagement	High engagement	Sarmugam and Worsley (43)
Food Importance	5 questions	5-25		Higher perceived importance	Sarmugam and Worsley (43)

Table A2: Gender

More females (n = 1199, 73.6) than males (n = 431, 26.4%) respondents out of the total sample (N = 1948).

Gender	N	%
Male	431	26.4
Female	1199	73.6
Total	1630	100.0

Table A3: Age of respondents

Presented below are the age of respondents broken down, the highest representation of ages is 45-45 years (n = 414, 25.4%) followed by 35-44 years (n = 405, 24.9%) and 55-64 years (n = 331, 20.3%).

Age of respondents	N	%
18 24		
25 34	235	14.4
35 44	405	24.9
45 54	414	25.4
55 64	331	20.3
65+	157	9.6
Total	1628	100.0

Table A4: Relationship/marital status

Most of the sample were either married/registered same-sex civil relationship (n = 804, 50.3%) or living with a partner/long term partner (n = 344, 21.5%).

Relationship/marital status	N	%
Single (living on your own)		
Single (living with housemates)	55	3.4
Single (living with family members)	128	8.0
Married/In a registered same sex civil partnership	804	50.3
Living with partner/long term partner	344	21.5
Separated	64	4.0
Divorced	45	2.8
Widowed	36	2.3
Total	1597	100.0

Table A5: Representation by county

Most respondents came either from Dublin (n = 425, 28.2%) or Cork (n = 164, 10.9%), with the least coming from Leitrim (n = 17, 1.1%).

Representation by county	N	%
Carlow	19	1.3
Cavan	21	1.4
Clare	30	2.0
Cork	164	10.9
Donegal	59	3.9
Dublin	425	28.2
Galway	83	5.5
Kerry	43	2.9

Kildare		
Kilkenny	31	
Laois	19	1.3
Leitrim	17	1.1
Limerick	52	3.5
Longford	24	1.6
Louth	43	2.9
Mayo	38	2.5
Meath	49	3.3
Monaghan	20	1.3
Offaly	23	1.5
Roscommon	25	1.7
Sligo	36	2.4
Tipperary	49	3.3
Waterford	45	3.0
Westmeath	36	2.4
Wexford	43	2.9
Wicklow	39	2.6
Total	1506	100.0

Table A6: Number in household

More respondents reported that they had children living in the household with them (n = 886, 55.3%) than those without (n = 717, 44.7%). Households with two children were the highest reported (n = 364, 22.7%).

Number of other people in household	N	%
0		
1	289	
2	364	23.1
3	165	10.5
4	46	2.9
5 +	22	1.4
Total	1578	100.0
No children	692	43.9
Yes children	886	56.1

Table A7: Number of children aged 16 years and under.

Respondents with children in the household were asked how many of them were under the age of 16 years. Most reported either one (n = 267, 40%) or two (n = 270, 40.4%) of the children present in the household were under 16 years.

Number of children aged 16 years and under.	1	2	3	4	5 Plus	Total
N						668
%	40.0	40.4	14.8	4.0	0.7	100.0

Table A8: reports respondents' ratings towards each of the food promotional areas by whether they would like to see them more or less frequently on promotional offer.

	Less Frequently N (%)	More Frequently N (%)	Total N (%)
Drinks			
Biscuits	**1258 (70.4)**	528 (29.6)	1786 (100)
Sausages	**1087 (61.0)**	694 (39.0)	1781 (100)
Fats and oils	776 (43.3)	**1018 (56.7)**	1794 (100)
Savoury pies	**1519 (85.5)**	258 (14.5)	1777 (100)
Starchy carbohydrates	671 (37.5)	**1117 (62.5)**	1788 (100)
Fruit juice and smoothies	**913 (51.2)**	870 (48.8)	1783 (100)
Chips and other potato products	**1199 (67.4)**	579 (32.6)	1778 (100)
Fruit	135 (7.5)	**1670 (92.5)**	1805 (100)
Cured meats	**927 (52.3)**	846 (47.7)	1773 (100)
Breakfast cereals	596 (33.1)	**1202 (66.9)**	1798 (100)
Oily fish	769 (43.1)	**1016 (56.9)**	1785 (100)
Fish	532 (29.8)	**1255 (70.2)**	1787 (100)
Ready meals	**1355 (76.5)**	416 (23.5)	1771 (100)
Morning bakery goods	**1160 (65.3)**	617 (34.7)	1777 (100)
Non Meat Alternatives	**1234 (69.3)**	547 (30.7)	1781 (100)
Plain bread	654 (36.6)	**1134 (63.4)**	1788 (100)
Soups and sauces	**894 (50.3)**	882 (49.7)	1776 (100)

Tea breads			
Vegetables	148 (8.2)	**1652 (91.8)**	1800 (100)
Take home savouries	**1202 (67.7)**	575 (32.3)	1782 (100)
Meat and fish products (processed)	**996 (55.6)**	796 (44.4)	1792 (100)
Confectionery	**1238 (69.9)**	533 (30.1)	1771 (100)
Dairy products	297 (16.4)	**1511 (83.6)**	1808 (100)
Soft drinks	**1188 (66.7)**	592 (33.3)	1780 (100)
Meat (unprocessed)	357 (19.8)	**1450 (80.2)**	1807 (100)
Cakes and pastries	**1344 (75.7)**	432 (24.3)	1776 (100)

Table A9: Promotional food buying trends

Participants rated each of the 27 promotional foods by how often they brought them over the previous month (see Table A9). Overall, it was reported that the promotional food items that were bought by most participants were vegetables (n = 1575, 84.8%), fruit (n = 1510, 81.4%), meat (n = 1250, 67.0%), dairy products (n = 1158, 62.6%), starchy carbohydrates (n = 985, 53.0%), plain bread (n = 940, 50.9%) and confectionery (n = 938, 50.9%). All other promotional foods were not purchased as much on promotional offer.

How often have you bought the following in the past month?	YES		NO	
	N	%	N	%
Meat (beef, pork & chicken)	1250	67.0	616	33.0
Dairy products (cheese, milk & yoghurt etc.)	1158	62.6	692	37.4
Ready meals (fresh & frozen)	450	24.4	1395	75.6
Soft drinks (ginger ale, lemonades, colas etc.)	729	39.3	1125	60.7
Fruit	1510	81.4	345	18.6
Confectionery (chocolate & sweets)	938	50.9	905	49.1
Biscuits	848	46.0	995	54.0
Vegetables	1575	84.8	283	15.2
Cured meats (bacon, salamis, hams etc.)	899	48.7	946	51.3
Meat and fish products (processed meats)	830	44.8	1023	55.2

Plain bread (brown & white etc.)				
Take home savouries (popcorn, crisps etc.)	793	42.8	1058	57.2
Soups and sauces	729	39.3	1125	60.7
Cakes and pastries	538	29.1	1311	70.9
Breakfast cereals	927	49.9	929	50.1
Savoury pies (e.g. pies, pasties etc.)	291	15.8	1548	84.2
Fats and oils (cooking oils, butter, spreads)	629	34.0	1221	66.0
Sausages	656	35.5	1191	64.5
Tea breads (sweet, glazed, iced etc.)	349	18.9	1500	81.1
Fish (fresh & frozen)	799	43.2	1052	56.8
Fruit juice and smoothies	592	32.0	1256	68.0
Morning bakery goods (croissants, bagels, etc.)	484	26.1	1371	73.9
Starchy carbohydrates (pasta, rice, noodles)	985	53.0	873	47.0
Oily fish	566	30.7	1279	69.3
Chips and other potato products (e.g. waffles)	541	29.2	1309	70.8
Non Meat Alternatives (Quorn mince, etc.)	271	14.7	1575	85.3
Drinks (still, sparkling, tonic waters)	725	39.2	1125	60.8

Table A10: Differences in impulsivity, health consciousness, deal proneness and shopping lists by promotional classes

Variable	Class	N	M	SD	DF	F	Sig
Impulsivity	Promotional Deal Prone	378	11.58	3.55	2	2.33	.098
	Promotional 5-A-Dayers	311	12.09	3.72	1638		
	Promotional Health Rounded	952	12.00	3.53			
Health Consciousness	Promotional Deal Prone	376	31.02	8.21	2	6.14	.002
	Promotional 5-A-Dayers	304	30.02	8.97	1621		
	Promotional Health Rounded	932	31.92	8.43			
Deal proneness	Promotional Deal Prone	377	10.75	5.47	2	15.14	.000
	Promotional 5-A-Dayers	306	12.78	5.88	1621		
	Promotional Health Rounded	941	12.48	5.61			

Shopping Lists							
	Promotional 5-A-Dayers		19.47	6.13	1593		
	Promotional Health Rounded		21.04	5.87			

Table A11: Differences in food shopping spend by promotional class

On a weekly basis how much on average do you spend on your	Class	N	M	SD	DF	F	Sig
Main grocery shop?	Promotional Deal Prone	416	102.84	57.36	2	.74	.475
	Promotional 5-A-Dayers	360	103.06	58.84	1833		
	Promotional Health Rounded	1060	99.94	47.11			
Top up grocery shop?	Promotional Deal Prone	415	29.11	25.42	2	.33	.717
	Promotional 5-A-Dayers	358	30.05	21.91	1819		
	Promotional Health Rounded	1049	28.98	20.07			

Table A12: Differences in impulsivity, health consciousness, deal proneness and shopping lists by purchasing classes

Variable	Class	N	M	SD	DF	F	Sig
Impulsivity	Deal Prone Purchasers	335	8.35	3.07	2	5.83	.003
	5-A-Day Purchasers	590	9.01	3.01	1677		
	Daily Staples Purchasers	755	8.97	3.13			
Health Consciousness	Deal Prone Purchasers	331	29.96	8.68	2	6.30	.002
	5-A-Day Purchasers	581	31.97	8.15	1645		
	Daily Staples Purchasers	736	31.57	8.57			

Deal proneness							
	5-A-Day Purchasers	580		5.53	1657		
	Daily Staples Purchasers	748	11.79	5.62			
	5-A-Day Purchasers	573	20.99	5.88	1629		
	Daily Staples Purchasers	730		6.13			

Table A13: Differences in food shopping spend by purchasing class

On a weekly basis how							
	Deal Prone Purchasers	359	115.04	59.35	2	18.355	.000
	5-A-Day Purchasers	666	95.05	50.21	1866		
	Daily Staples Purchasers	844	99.32	48.38			
	5-A-Day Purchasers	659	26.23	19.13	1852		
	Daily Staplers Purchasers	839	28.94	20.37			

Appendix 2: Accompanied Shop

Participant training and accompanied shop procedure

Participant Code: ____________________

Participant Name: ………………………………………………………………………………

Participant Code No: ………………………………………………………………………………

Date & Time: ………………………………………………………………………………

Location: ………………………………………………………………………………

Researcher: ………………………………………………………………………………

Till Receipt: YES / NO

1.	Before we begin, you have been briefed on the background to the study therefore in agreeing to take part we wish to have your consent. Can you please sign the consent form stating that you are happy that you have read and understood the information sheet?
2.	Overview of today's task: - Think aloud training (10mins) - Shopping (reminding them that it is their shop and that they have to pay)
3.	What size of shop are you doing today? How long do you think your shop will take? Do you need to leave by a particular time?
4.	Check interview session: Time of interview: ___________ Date of interview: ___________ Location: ___________
5.	Think Aloud Training

As I have probably already mentioned, in this task I would like you to think aloud while you are on your usual shopping. What I mean by' thinking out loud' is to say everything you are thinking while you are shopping. So maybe this will be what you are looking at, reasons why you are choosing to buy it, or reasons why you aren't buying it, and so on.................

When I say 'everything you're thinking' I literally mean just that, no matter how fleeting or apparently trivial the thoughts may be. That means including everything that you're looking at and registering mentally, as well as anything you're doing.

The idea is that you continue talking as much as possible about what you are thinking, rather than you and I having a conversation, so you will find that I will follow you and observe what you are doing, but not talk a lot to you. When you are talking out loud it's fine for you to aim that at me so you feel you aren't talking to yourself!

I have a few practice examples here as it can help to get used to talking out loud.... I will demonstrate the first example, then if you are happy to go you can try the following example. It is also really useful if you mention what in particular you are looking at, for the benefit of the tape recording.

So I'll start now with an example of how I might think aloud if I was trying to buy a toaster out of a catalogue.

"*I am looking at the Cookworks toaster, it's €14.69 – so it seems nice and cheap and within my budget. It toasts four slices of bread which is handy. But then there's this Brevill one with is €16.99, a bit more expensive and only toasts two slices of bread. Although I prefer the look of this one as it's silver and black and I don't really need the toaster to toast four slices of bread, so I think I'll choose this one.*"

Could you now do the same as though you wanted to buy a kettle and you were choosing between these two. Would you like to have a go at talking out loud about these irons too? Remember we are interested in the reasons for your product selection e.g. convenience, brand, colour, health, price, quality, past experience, promotion etc.

-

-

	- I will prompt you if you fall silent for more than (10 seconds) and I will probably say; 'keep thinking aloud'; or 'what are you thinking'; or 'what are you looking at?' I will not embark on any conversation with you. - I make some notes during the shop, don't worry about this. - Just to reassure you, I am not here to judge what you buy.
7.	Has participant consented to providing a till receipt? Yes / No If yes, explain that we will photocopy the relevant sections and return the original to them.
8.	Any more questions before we start?
9.	Set up recording equipment. The microphone will be clipped to lapel/collar and will be on throughout the shop and will pick up both voices.
10.	Start recording equipment and say Code ID number
11.	After shopping. That's the end of our shopping task.
12.	Give participant post-shopping survey. Do you have any questions?
12.	Thank participant and confirm next meeting time and location (follow up phone call one week later).

Accompanied Shop: Pre-shop Survey

1. What was the last meal you ate __________________ and at what time- ____________________?

2. Circle on the following scales how you rate yourself at this moment in time on each of the scales below:

Excited	:__1__:__2__:__3__:__4__:__5__:__6__:__7__:	*Calm*
Wide-awake	:__1__:__2__:__3__:__4__:__5__:__6__:__7__:	*Sleepy*
Happy	:__1__:__2__:__3__:__4__:__5__:__6__:__7__:	*Unhappy*
Positive	:__1__:__2__:__3__:__4__:__5__:__6__:__7__:	*Negative*
Stimulated	:__1__:__2__:__3__:__4__:__5__:__6__:__7__:	*Relaxed*
Confused	:__1__:__2__:__3__:__4__:__5__:__6__:__7__:	*Clear*
Confident	:__1__:__2__:__3__:__4__:__5__:__6__:__7__:	*Unconfident*
Not Hungry	:__1__:__2__:__3__:__4__:__5__:__6__:__7__:	*Hungry*
Time Pressured	:__1__:__2__:__3__:__4__:__5__:__6__:__7__:	*Not time pressured*

3. When did you last conduct a grocery shop: _____________ days ago?

4. Do you know what you are going to buy today? *(please circle)*

   YES NO

5. Do you have a shopping list with you today? (*mental, paper, electronic, etc.*) YES

   NO

6. Did you go online to plan your shop in advance? YES

   NO

7. Did you receive any promotion material from this retailer before coming here today?

YES NO

8. Is this the store where you do your main grocery shop? YES

NO

If no, please name the store/retailer: ____

9. Is this the store where you do your top-up grocery shop? YES

NO

If no, please name the store/retailer: ____

10. What are the main reasons why you shop at this store?

____

11. How much do you plan to spend on food while in store today?

0-€40 ☐ €41-€80 ☐ €81-€120 ☐ ☐ €120 +

Post Shop Survey (Accompanied Shop)

Part A - at till point

1. Did you take up any good promotional offers today?

2. Tell me about some of the promotional offers you saw today?

3. What are your thoughts?

**** Collect the till receipt ****

Part B - after till point

1. Circle on the following scales how you rate yourself at this moment in time on each of the scales below:

Excited	:__1__:__2__:__3__:__4__:__5__:__6__:__7__:	*Calm*
Wide-awake	:__1__:__2__:__3__:__4__:__5__:__6__:__7__:	*Sleepy*
Happy	:__1__:__2__:__3__:__4__:__5__:__6__:__7__:	*Unhappy*
Positive	:__1__:__2__:__3__:__4__:__5__:__6__:__7__:	*Negative*
Stimulated	:__1__:__2__:__3__:__4__:__5__:__6__:__7__:	*Relaxed*
Confused	:__1__:__2__:__3__:__4__:__5__:__6__:__7__:	*Clear*
Confident	:__1__:__2__:__3__:__4__:__5__:__6__:__7__:	*Unconfident*
Not Hungry	:__1__:__2__:__3__:__4__:__5__:__6__:__7__:	*Hungry*
Time Pressured	:__1__:__2__:__3__:__4__:__5__:__6__:__7__:	*Not time pressured*

2. Can you try and recall up to 10 food items during your shop that you noticed were on promotional offer:

A ....

B ....

C ....

D ....

E ....

F ....

G ....

H ....

I ....

J ....

3. Do you typically buy into promotional offers?

Strategies for prompts:

- Health-related
- Price
- Curiosity
- Stockpiling
- Reduced shopping frequency

....

....

4. Was there any food item that you bought today that you had no intention of buying when you came into the shop?

....

....

5. How satisfied are you with your shop? (*rated on 1-7 Unsatisfied/Satisfied*)

Unsatisfied :__1__:__2__:__3__:__4__:__5__:__6__:__7__: *Satisfied*

6. How healthy would you consider your shopping today to be? *(rated on 1-7 Less healthy/Healthy*)

Less healthy :__1__:__2__:__3__:__4__:__5__:__6__:__7__: *Healthy*

7. How 'value-for-money' or 'cost saving' do you consider your shopping today to be? *(rated on 1-7 Not at all/A lot*)

Not at all :__1__:__2__:__3__:__4__:__5__:__6__:__7__: *A lot*

8. Do you think there are ways that supermarkets/shops can promote healthy foods more?

**Collection of till receipt

If the participants agree to a follow up call – a 5 min conversation can take place

Researcher reintroduces themselves and thanks them for their time – remind them that the conversation is recorded.

1. Since your last shop (with me) how many top-up shops/main shops have you done?

……………………………………………………………………………………………

……………………………………………………………………………………………

2. Did you go back to the same store again? YES NO

Why?

……………………………………………………………………………………………

……………………………………………………………………………………………

3. Thinking about your shop (with me) how did you feel about the following statements.

a. The amount choice of food promotions offered by that retailer?

A lot of choice	:__1__:__2__:__3__:__4__:__5__:__6__:__7__:	*Not a lot of choice*

b. The amount of choice around promotional food offers by that retailer?

A lot of choice	:__1__:__2__:__3__:__4__:__5__:__6__:__7__:	*Not a lot of choice*

In the future:

a. What is the likelihood that you will be using that same retailer again for your next shop?

Extremely unlikely	:__1__:__2__:__3__:__4__:__5__:__6__:__7__:	*Extremely likely*

b. What is the likelihood that you will buy healthier promotional food offers in the near future?

Extremely unlikely :__1__:__2__:__3__:__4__:__5__:__6__:__7__: *Extremely likely*

Thinking about your grocery shop with me............

4. Did many of your food promotional products have to be thrown out? YES NO

Why?

....

And,

5. Can you think of ways to encourage grocery shoppers to choose healthy promotional foods offers over those less healthy promotional foods?

....

....

Thank participant and debrief

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