

# Food marketing to preschool children

Summary report



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# 1 Background

Research has shown that preschool children's dietary habits and body weight can be affected by food advertising (1, 2). Multiple techniques and channels are now used to reach young populations to foster brand awareness and influence purchasing behaviour. These food marketing channels include television and radio advertising, in-school marketing, product placements, kids' clubs, the Internet, and toys and products with brand logos. Young children lack the cognitive skills and abilities of older children and adults to comprehend commercial messages and therefore are uniquely susceptible to advertising influence.

The media landscape is changing rapidly, even for very young children. In the past children's television programming was restricted to time slots unpopular with adults, such as the after school period and Saturday mornings. In this new multi-channel era, there are numerous television stations exclusively devoted to children. Young children may also enjoy early evening programming, which may be aimed primarily at adults and which is not subject to children's advertising codes. Equally, on the island of Ireland internet penetration is growing rapidly. At this point it is not known how many children under the age of five use the internet (for games etc.) and there is as yet almost no evidence is yet available in the public domain regarding how children respond to advertising in new media environments.

Research shows that children can be successful at influencing their parent's food purchasing. Parents have reported yielding to children's purchase requests has been reported in studies that rely on parent self-reports (3, 4) as well as unobtrusive observation of behaviour in the supermarket (5, 6). A huge body of recent work has emphasised how interventions later in the life-cycle build on interventions that have taken place earlier (7-11). The implication from this literature is that early-interventions pay-off for longer and also are complementary with later interventions. This suggests that controlling exposure to advertising of unhealthy foods to preschool children may have far reaching benefits.

This report aims to investigate the level and types of exposure of young children (2-5 years old) to advertising of unhealthy foods and to examine its influence on family food purchases, children's eating behaviour and their body weight.

## 2 The food marketing environment

### Key findings

- Children continue to be exposed to large amounts of food advertising. Recent research indicates that promotions targeting children have increased and online advertising targeting children, though under-researched, appears to have become a highly effective marketing technique.
- Food marketers have adopted multifaceted and highly effective approaches to food marketing, using techniques such as product placement, sales promotions, websites, celebrity promotions, promotional characters and packaging to capture the attention of their target market.
- Television continues to be the primary vehicle through which food companies market their products to children.
- The types of foods marketed to children are typically nutritionally poor with high levels of fat, sugar and/or salt.
- Existing research supports the findings of this review that food marketing continues to affect children's diet in terms of food consumption, preferences and purchase requests.
- Since 2004, there has been an increase in the use of non-traditional forms of marketing promotion such as sponsorship, product placement and digital marketing (e.g. social networking, websites, advergames, etc.)
- Current regulations do not fully address the integrated nature of marketing to children across media platforms (e.g. digital) utilising a variety of promotional techniques.
- Measureable regulatory progress has been made with regards the marketing of foods to children in ROI and NI (UK) through statutory, non-statutory and self-regulation.
- Legal loopholes remain whereby food companies can continue to market foods to children using product placement and digital marketing techniques.

## **Aims**

This chapter reviews evidence published between 2009 and 2013 on the relationship between food marketing and preschool children's diets, building on a review commissioned by the WHO titled 'The Extent, Nature and Effects of Food Promotion to Children: A review of the evidence to December 2008' (12).

- To establish the extent of food marketing aimed at preschool children
- To investigate the nature of food marketing aimed at preschool children
- To examine the effects of food marketing on preschool children's behaviour
- To review the literature on international regulations with regard to food marketing to children and identify current ROI and NI (UK) regulations in this area

## **Methodology**

Systematic searches of databases were conducted to identify peer reviewed literature. Pre-defined criteria informed the search. This process identified 79 articles relating to food marketing and preschool children. In relation to international regulations regarding food marketing to children, three reviews were identified that addressed international measures extensively (13-15). Across the three reviews, 88 countries were identified but only 31 were consistently addressed in all three reviews.

## **Results**

### **The extent and nature of food promotion to preschool children**

Harris et al (16) suggest that the prevalence of obesity is increasing in nearly every country to the point that over-nutrition rivals under-nutrition. The burgeoning obesity epidemic has resulted in efforts to tackle factors considered to promote an 'obesogenic environment' which includes marketing of unhealthy foods to children. However, research highlights that food marketing to children continues to overwhelmingly promote foods that are high in fat, sugar and/or salt (17-20). Analysis of advertising directed towards children via television and websites indicated that the majority of food advertisements promote unhealthy food, while promotion of fruit and vegetables is rare (17, 21, 22). Moreover, research has found that unhealthy foods are given more television airtime and the consumption of nutritionally deficient food is reinforced (23, 24). Confectionary, sweetened cereals, fast food, savoury snacks and carbonated drinks are the foods most commonly advertised to children (17, 25, 26).

The majority of research investigating food marketing and children has focused on TV advertising to children. Recent research supports earlier studies that found high levels of food marketing to children on television. A recent multi-country study found that food was the second most frequently advertised product with an average of five advertisements per hour across the television stations sampled (18). Moreover, recent US analysis found that during prime-time television children are exposed to 70% of product placements viewed by them (27). While in the European context, research conducted in Germany found that advertisement of unhealthy foods increased from 88.2% to 98.2% on children's television channels between 2007/2008 and 2010 (22).

While television remains an important marketing channel, the growth of advertising via the internet, websites and social media, has demanded researchers' attention. New advertising strategies such as advergames are innovative and effective, combining content and advertising flawlessly (28) and making it difficult for children to recognise advertisements. Moreover, the borderless nature of the internet presents a challenge in regulatory terms (16, 29). Along with television and online marketing, marketers use a myriad of techniques to target children including promotions, colourful and fun packaging, emotional and persuasive methods, licensed characters, spokes-characters and collectibles (25, 26, 30-33).

### **The effects of food promotion on preschool children**

Recent research on the relationship between food promotion and food behaviour supports earlier studies. US research has found that increased exposure to television food advertising increases the tendency to consume that food (34, 35). Moreover, children who watch higher than the recommended amount of television per day were more likely to be overweight and have a higher energy intake than children who watched less than the recommended amount of television per day (36, 37). Research has also demonstrated that branding has an influence on what and how much children eat (38). For example, a study conducted in the US found that overweight children showed increased responsiveness to branded food products, consuming 40Kcal more branded meals versus non-branded meals (39).

In light of the efficacy of branding, researchers have begun to study its usefulness in promoting healthy eating amongst children. Recent research has indicated that children respond positively to healthy food in branded packaging (38, 40-43). Due to the increasing sophisticated psychological techniques used by marketers Harris et al (44) have called for more research into understanding the psychological mechanisms through which food marketing affects children. Furthermore, a recent editorial review suggests that neurological assessment of the responsiveness of food cues is needed to specifically address the role of marketing in the energy intake of children (45).

## **International regulations on food marketing to children**

The review on international regulations on food marketing to children indicated that while a significant body of work has been carried out in establishing clear regulations on marketing of food, there are still ambiguous areas within the legislation which fail to protect children. According to PolMARK (15), ROI, UK and France are the only three EU countries to have implemented explicit statutory regulations on food marketing to children. The UK have reported more frequently and most recently on the regulatory landscape of the country. Similar to ROI, there have been numerous calls to action to ban food marketing to children. The British Heart Foundation (BHF) has launched a report detailing the practice of online marketing of food to children and campaigned for enhanced regulation in this field.

## **Conclusions**

The purpose of this chapter was to update the existing literature on food marketing and the preschool child. The review showed that marketing to children has not diminished. Children continue to be exposed to large amounts of food advertising and food marketers have adopted multifaceted and highly effective approaches to food marketing using techniques such as product placement, sales promotion, websites, celebrity promotions, promotional characters and packaging to capture the attention of their target market. The types of foods marketed to children are typically nutritionally poor with high levels of fat, salt and sugar. Research suggests that although there has been a decrease in marketing certain foods in the US, advertisements for fast foods continue to increase. Furthermore, the attempts to regulate or ban advertising of high fat, sugar and salt foods have met with varying degrees of success. And whilst regulations and bans have been implemented, their effectiveness is not yet clear and requires further research, in particular there is need to further investigate legislation surrounding digital marketing and advertising (e.g. advergames).

## **Recommendations**

The majority of research into child targeted marketing focuses on television advertising. Given the growth of online marketing to children and its use of innovative strategies coupled with children's difficulty in distinguishing internet advertising further research is warranted.

Children as young as two years of age are able to recognise branded logos. Given the prevalence of branded packaging along with the use of licensed cartoon characters on cross promotions in supermarkets further research is advised in relation to in-store marketing techniques.

Research following the introduction of a ban on advertising high fat, sugar and salt foods by Boyland et al found that in spite of regulations, children were exposed to more advertising for unhealthy foods

compared to healthy foods (46). As of September 2013, regulations on TV advertising of such foods to children were introduced in ROI. It would be relevant to compare the amount of high fat, sugar and salt food and beverages targeting children pre and post regulation in ROI.

Given the move by advertisers to the online environment for engaging children it would be pertinent for government and non-government public health bodies to advocate for regulation in this domain.

# 3 Survey of marketing channels

## Key findings

- According to respondents, the most popular channels of communication used to target children were point of sale (44.8%), product packaging (34.5%) and word of mouth/brand representatives (34.5%).
- Sales promotion using online, in-store and on-pack offers (33.3%) was the most favoured marketing technique used by respondents, followed by use of packaging information and nutrition labelling (28.6%).
- In the UK it is estimated that children present a marketing opportunity worth £99 billion and that UK companies spend approx. £350 million each year, persuading children to consume products.

## **Aims**

- To identify the main media forms used to target children by food companies on the island of Ireland
- To determine a breakdown of expenditure on different marketing channels used
- To conduct a comparison on food marketing expenditure relative to other products marketed to children.

## **Methodology**

The framework used by Hawkes and Harris, which makes a distinction between communication channels and marketing techniques, was adapted for this study and used to assess marketing pledges and company commitments to children from a global perspective (47). For the purposes of this chapter, a communication channel is defined as the medium used to convey information (TV, radio, etc.) and a marketing technique is defined as the practical method or activity implemented to market a product or brand (advertising, etc.).

An email survey was designed to identify whether a company targeted their products towards children aged three to five years and to determine the ways in which they did this. This survey was sent to food companies that had a brand presence on the IOI and mainly targeted their foods to children aged three to five years.

In addition, a short review of relevant market and industry reports was undertaken to identify the breakdown of expenditure on different marketing channels used to target certain food products at children and to draw comparisons on food marketing expenditure relative to other products marketed to children. It should be noted that due to issues relating to confidentiality and disclosure it was not possible to access detailed data on marketing expenditure in UK and ROI. In addition, not all of the expenditure reported could be readily divided to account for those aged three to five years.

## **Results**

### **Identification of media and marketing channels**

In total the survey received 37 responses (2.2% response rate). The majority of the sample consisted of food producers (56.8%) and manufacturers (32.4%). The respondents' companies were involved in producing and/or supplying a range of food products. Only 13.5% of respondents reported specifically targeting three to five year old children; while 64.9% stated that they targeted parents with their products and brands. Surprisingly a large proportion of the sample (48.6%) stated that they intended to target these children specifically in the future.

The most popular channels of communication used to target children were point of sale (44.8%), product packaging (34.5%) and word of mouth/brand representatives (34.5%). These results may be reflective of the current economic climate in Ireland, where advertising expenditure has decreased and cheaper channels of communication are more attractive to this market. Furthermore, due to the age group of this target market, word of mouth/brand representatives are an effective form of communication as parents share tips regarding their child's development and recommendations from friends may be more persuasive than marketing messages. Results highlighted that when looking at marketing channels, the largest amount of marketing expenditure was spent on word of mouth/brand representatives (17.4%), point of sale (12%), online communications e.g. blogs and forums (10.5%), billboards (10%) and television (10%). Sales promotion using online, in-store and on-pack offers (33.3%) was the most favoured marketing technique followed by health claims and nutrition labelling (28.6%) and competitions and free toys (23.8%). In terms of expenditure, respondents reported spending 22.2% on advertising (print/TV/radio), 6.7% on product placement and 6.7% on children's clubs.

#### **Identification of marketing expenditure**

The food and drinks sector in ROI accounts for an estimated turnover of €24 billion (48). In Northern Ireland (NI/UK) the food and drinks processing sector total gross turnover is estimated at a value of £3.7million in 2010 (49). According to Euromonitor, in 2011, 1,440 thousand tonnes and 8,861 thousand tonnes of fresh food was sold in Ireland and UK respectively (50).

According to population figures, 3.9% of the NI population is made up of three to five year old children (51). In ROI, 7% of the total population is estimated to be aged between zero and four and 6.8% to be aged between five and nine years (52). These figures suggest the significant market size of preschool children and the potential marketing opportunity that exists in investigating and targeting this market.

#### **General advertising expenditure in UK (incl. NI) and ROI**

Euromonitor reported that a total of €1.927 billion and £10.458 billion were spent on advertising in the ROI and the UK respectively (50). A report by Mothers Union stated that in 2009 an estimated £350 million (out of a total advertising spend of £14.5 billion) was spent on directly targeting advertising towards children (53). An annual survey on Advertising Production Expenditure conducted by WARC highlighted that television remains one of the most popular channels of communication for advertising, however, the online advertising spend in ROI, rose above that of radio for the first time in 2011 (€120 million vs. €111 million) (54).

Total advertising spend across seven communication channels (Newspapers, magazines, TV, radio, cinema, out of home and online) for ROI and UK show a decline in total spending from 2008, which

could be attributed to the impact of the recession in both countries(43). In addition, an Ofcom survey revealed that expenditure on online advertising has shown a year on year increase, highlighting its growing popularity (55). In comparison with data from 16 other countries, the UK had the highest expenditure on internet marketing, while the ROI had the overall highest expenditure on print media (newspapers) (43).

#### Food marketing and advertising expenditure towards children

In the UK, it is estimated that children present a marketing opportunity worth £99 billion (56) and that UK companies spend approximately £350 million each year persuading children to consume products (57). It is estimated that €130 million was spent on food and drink advertising in Ireland in 2008 (53).

#### Market comparison

A Keynote market report highlighted that the market for traditional toys and games was worth and estimated £1.94 billion and that the market for electronic games (targeted at children) was worth £1.65 billion in 2003. Advertising expenditure within this market was primarily dominated by Mattel which had a media spend of £29.4 million in the year ending 2002. More recently a report by Mintel stated that the toys and games market on the IOI grew by 38% from 2001 to 2005 in terms of sales volume. In 2005, the market for toys and games was estimated to be worth £129.2 million in NI and €424.5 million in ROI. It is difficult to draw comparisons between the food and drinks and the toys and games industries, however, both reports indicated that marketers are implementing similar marketing strategies to target children (58).

#### Conclusions

The survey of food companies revealed that point of sale was the most popular channel of communication for food and drink marketers and sales promotions (on-pack/in-store/online) was the most popular marketing technique. The choice of these channels and techniques indicate marketer's use of stimulating consumer's interest while in-store. Due to the recent economic downturn in ROI and the UK, marketers needed to adjust their strategies. As a result, use of low cost communication channels such as word of mouth advertising/ brand representatives and online social media have become more popular. However, the small response rate to this survey should be considered when interpreting the results. In addition, information relating to marketing expenditure is of a confidential nature; therefore detailed and recent information in this area was hard to access.

#### Recommendations

Given that the majority of companies in the sample did not participate in this survey, collaboration with food manufacturers should be encouraged.

# 4 Audit of exposure to television food advertising on the island of Ireland

## Key findings

- Compared to NI, 50% more food and drink advertisements were broadcast in ROI.
- The number of food and drink advertisements per hour of TV varied by channel, from 0.5 to 5.8 per hour in ROI and 0.7 to 3.7 per hour in NI. In addition, child-specific channels (Nickelodeon, etc.) had considerably less food-related advertising than general audience channels (UTV, TV3, etc.).
- Across the IOI the majority of food advertisements (55%) advertised less healthy foods.
- Across the island of Ireland, dairy products were most frequently advertised (nearly a quarter), while just 15% of advertisements were for fruit, vegetables, meat, fish, eggs and carbohydrates.
- Almost all food advertisements showed a brand icon and stated or sang the brand name, with more than 80% having an associated music or jingle.
- The most frequent setting for food advertisements was the kitchen or at a table in the home. Parks and countryside was the second most frequent setting used in adverts, followed by fantasy settings.
- The most frequently used appeal across all food and drink advertisements was fun, play and enjoyment. Magic, fantasy, imagination as well as physical or athletic ability were also used.
- Advertisements were not found to breach statutory regulations.

## Aims

- To establish levels of food and drink advertising on television on the island of Ireland, sampling from times and channels where audience research indicates that higher proportion of young children are likely to view TV.
- To provide a comprehensive content analysis of advertisements, according to nutrient profiles and food groups of advertised items, and according to advertising techniques employed.
- To assess compliance with statutory advertising regulations in the Republic of Ireland and Northern Ireland.

## Methodology

Channels and times were selected with reference to Nielsen/TAM Ireland-Arianna audience research, about viewing patterns of children aged four to six years in the ROI, provided to the research team by the Broadcasting Authority of Ireland (BAI). For 210 hours of televising programming on the island of Ireland recorded, 7,698 advertisements were logged. Alcohol, tea/coffee, formula milk, baby food and generic supermarket advertisements were excluded, after which 508 (6.6%) food and drink items remained.

## Results

### Frequency of food and drink advertisements

A total of 105 hours of television for each jurisdiction or 210 hours of programming in total were recorded. Over this time, 7,698 advertisements were logged. Alcohol, tea/coffee, formula milk, baby food, weight loss shakes and generic supermarket advertisements were excluded, which resulted in 508 advertisements across the island of Ireland.

Nickelodeon and Nick Junior, two channels dedicated to children's broadcasting on the IOI, showed very little food and drink advertisements. In comparison, channels whose programming is aimed at general audiences (UTV and Channel 4 in NI; RTE1 and TV3 in the ROI), but that still have high levels of viewing among young children, show substantially more food and drink advertisements. In addition, although the five channels sampled in NI broadcast more advertisements overall than those in the ROI, 50% more food and drink advertisements were broadcast in the ROI.

### Nutrient profiling and food group analyses of foods advertised

Applying the UK nutrient profiling system to the full all-island sample of 508 advertisements, showed that 45.4% were for healthy items and 54.5% were for less healthy items. In addition, the ROI and NI

did not differ significantly in the proportions of healthy and less healthy food and drink items advertised.

In addition to nutrient profiling, food advertisements were coded by food groups. The proportion of food groups advertised on television across the island of Ireland was very similar, with the exception that for ROI, a substantially greater proportion of advertisements were logged for fast food composites (where fast food franchises advertised products that dietary guidelines recommended consuming less frequently, such as pizza or burgers), compared to NI. On the other hand, in NI, proportionately more advertisements for non-alcoholic drinks were logged.

The highest proportion of advertisements shown across the IOI was for dairy foods, predominantly for items such as sweetened yoghurts, cheese and milk. The second highest proportion of advertisements was represented by fast food composite items such as pizzas and burgers from franchises such as McDonald's, Subway, Dominos and Apache. Sweets and chocolate were represented by just over one in ten advertisements. Together, these categories represent nearly half of all food and drink advertisements (47.8%). In contrast, the combined percentage of advertisements for staple foods such as meat/eggs/fish; bread/rice/pasta/potatoes; and fruit and vegetables was just 15%.

Of the 231 island of Ireland advertisements for items classified as healthy by UK nutrient profiling system, over a third was for dairy products. Within healthy foods, just over one in ten advertisements were for fast food burgers/pizzas, soups, and fruits and vegetables each. Other food groups such as drinks, meat/fish/eggs, breakfast cereals and carbohydrate foods were represented by fewer than one in ten of the total advertisements for healthy items. Overall, therefore, healthy foods advertised were disproportionately represented by dairy foods.

Of the 277 advertisements from the island of Ireland, classified as less healthy, over one fifth were for sweets and chocolate. More than one in ten was for fast foods, dairy foods (mainly cheeses), breakfast cereals, desserts, cakes and savoury snacks.

Advertised foods were also assigned to groups to facilitate comparison with the UK Eatwell Plate which recommends, a diet of 33% fruit and vegetables, 33% starchy foods, 12% meat/fish/eggs/beans, 15% dairy and 7% foods high in fat and/or sugar. Results showed that of the foods advertised on TV, 53% were for foods/drinks high in fat and/or sugar, 27% for milk/dairy, 8% for bread/rice/pasta/potatoes and other carbohydrates, 6% fruits and vegetables and 6% meat/fish/eggs.

### **Advertisement formats, settings, characters and appeals**

Almost all food and drink advertisements showed the brand icon and stated or sang the brand name, more than 80% had associated music or a jingle, addressed the audience directly and showed the

product's packaging in the advertisement. Interestingly, disclaimers were more likely to be shown on screen for healthy items, and these items were also more likely to state or sing the brand name and to address the audience directly.

The most frequent setting in advertisements was the kitchen or at a table at home. Countryside/parks were next, followed by fantasy settings. Healthy products were significantly more likely to be advertised in home, kitchen/eating or garden settings. Less healthy items were significantly more likely to be advertised using shop/retail setting or to have no specific setting.

Most food and drink advertisements featured real, human adult characters, equally split between males and females. A quarter of advertisements also featured a child or an animated character. Advertisements for healthy foods were significantly more likely to feature animals and promotional characters.

The most frequently used appeal across all healthy and less healthy food and drink advertisements was fun, play and enjoyment, recorded in a third of advertisements in this study. A quarter of advertisements used magic, fantasy or animation and one in five employed references to physical or athletic ability. Humour and exaggerated pleasure sensation were also found (one in ten advertisements).

### **Compliance with statutory regulations for children's programming**

All advertisements were inspected for compliance with the Republic of Ireland's Children's Communication Code (59) and Ofcom's Content Rules (60). The two sets of guidelines focus on similar core goals: ensuring that advertisements in child-directed programming do not encourage unhealthy lifestyles or excessive consumption; transmit misleading nutritional information; encourage children to pester or ask parents to buy items; make a child feel inferior for themselves and their families if they do not have a certain product; or create the impression that children's friendships or peer relationships will be enhanced by a product. Advertisements should not imply that items are affordable for all families. The use of celebrities or sports stars in food and drinks advertising is not permitted in the ROI and care is cautioned in the UK. In the ROI, acoustic or visual messages about balanced diets or tooth damage should accompany advertisements for fast foods and sweets respectively.

Advertisements viewed were not found to breach the strict letter of the regulations – for example, direct exhortations to buy, consume excessively, and pester parents; or explicit statements that products will enhance relationships or be affordable to all families.

## **Conclusions**

The findings of this audit indicate that children's exposure to food and drink advertising will vary considerably depending on their location and the channels they view. In addition, using the UK nutrient profiling system indicated that the 'advertised diet' shown at times and on channels likely to have higher young audiences on the island of Ireland, represents a considerable distortion of recommendations for a healthy diet.

## **Recommendations**

As children view substantial amounts of TV outside of child-specific programming, regulations in Ireland should be adapted to take account of children's actual viewing patterns.

Consideration should be given to the mental representations created in viewers by the overall patterns of food advertising. The overall advertised diet on the island of Ireland is one dominated by dairy foods, burgers, pizzas, sweets and chocolate. Other foods such as fruit, vegetables, meat, fish, eggs, bread, potatoes, rice and pasta are represented substantially less frequently. Foods in advertisements are largely presented in the context of eating at home, great taste and aroma, exaggerated pleasure sensations, having fun, magic and imagination, humour and physical activity. Such a representational climate is likely to normalise imbalanced food consumption among children and indeed their families who view such advertisements over time.

# 5 Study of preschool children

## Key findings

- Children watched an average of 2 hours and 9 minutes of TV a day, 34% had a TV in their bedroom, 65% watched DVDs (average of 50 minutes a day) and 33% used the internet.
- Children from advantaged communities were more likely to live in family environments with less TV exposure, were less likely to have a TV in their bedroom and watched less TV each day. In addition, these children had healthier eating patterns, spent less time outdoors and their mothers had higher education levels.
- Parents held strong negative views of TV food advertising aimed at young children but 9 out of 10 parents never asked their children to switch off TV ads and nearly two-thirds said they never talked to their children about advertising.
- While majority of parents reported that TV had little influence on their child's food requests and eating habits, parents whose children had more TV exposure and/or viewed more TV were more likely to say TV advertising affected their child's food requests.
- From three years of age, children had high levels of understanding that food such as fruit, vegetables and milk were healthy. However, understandings of unhealthy food items were substantially lower, particularly for meal items such as chicken nuggets or sausages.
- When shown brand logos of some of the most widely advertised food and drink products, children were able to recall the brand name of 31%; to recall the brand name or the product of 53% and to match 63% of brand logos to a correct product image.
- At all ages, children knew more about unhealthy brands than healthy ones. Knowledge of unhealthy food brands was higher among those children who attended school in disadvantaged communities, had more TV exposure at home, had mothers with lower levels of education and ate less healthily.
- Thirty six to 62% of children could identify the advertised food item from a variety of adverts, while fewer than one in ten could repeat any of the voiceover content. Overall, children's response to the adverts suggested a high level of emotional involvement, regardless of explicit understanding of the advertising message.

## **Aims**

- To examine preschool children's nutritional understanding
- To explore preschool children's ability to absorb information from marketing messages
  - Brand recall and recognition
  - Understanding of food and drink television advertisements
- To identify parent perceptions of the influence of advertising on young children's food choice/demands

## **Methodology**

The method and procedures for each study component are described below.

### **Sampling strategy**

The study aimed for a quota sample of 160 preschools from the island of Ireland, including children with diverse demographic backgrounds in terms of jurisdiction, community type, age and gender.

### **Recruitment**

A rolling process of recruitment was undertaken to ensure the balance of the sample according to the above criteria. During this process, it became apparent that there were no 5-year-olds attending preschools in the sample. As a result, sampling was extended to include children in the first year of primary school, to capture age related developments of children's brand and food understandings (61, 62).

#### Schools

Across the island of Ireland, preschools and schools were identified through a mix of random selection from published listings and researchers' direct and indirect contacts. The nature of the study was first explained to the school principle or manager over the phone, followed up by an information pack.

#### Children

A letter was sent to parents/guardians of the children, outlining the nature and scope of the study and the requirement for signed consent forms. A pictorial information booklet for children introduced them to the study. Participation was opt-in, with informed parent consent and informed child assent.

## Parents

After a child had participated in the study, preschool/school staff distributed parent questionnaires, followed up by a reminder from school teachers to ensure parents returned the completed questionnaires.

### Parent's perceptions

After reminders and distribution of second questionnaires, 100 parents returned questionnaires (58% response rate). Where analysis used variables from the parent questionnaire, these were conducted with a sub-sample of 100 parent-child dyads. Overall, although parents in disadvantaged communities were less likely to return a questionnaire, there were no significant differences in children's responses and characteristics depending on whether their parents had returned a questionnaire or not.

The questionnaire contained items from the National Preschool Nutrition Survey and also asked parents to rate their attitudes to the following:

- Influence of TV advertising and other marketing on their child's eating
- Sources of their child's food preferences
- Their mediation regarding advertising and shopping choices
- Their child's food requests
- The reasons underlying their food purchase decisions.

Information on child and family media use, healthy eating and demographics were also recorded.

### Anthropometric measures

Measures were taken of 93% (n=160) of participating children, 7% were absent on the day of measurement or did not wish to stand on the stadiometer.

### Children's nutritional understanding

A total of 172 children on the island of Ireland took part, drawn from 11 preschools and three primary schools (48% were boys). Children were aged 3-5 years. Reflecting the island of Ireland proportions, 73% were from ROI and 27% were from NI. Across the sample, 45% of participants attended preschools/schools serving advantaged communities.

In selecting food and drink items for this study, the aim was to balance healthy and unhealthy items and to choose those that were familiar to children in this age group. Foods were classified as healthy or unhealthy based on the UK Department of Health's Nutrient Profiling System (63).

## Results

### Anthropometric measures and findings relating to BMI

BMI was converted to centiles using the UK1990 reference. Using cut-offs recommended for population survey research (85<sup>th</sup> and above), 24% of the sample was found to be at risk of overweight or at high risk of obesity. Using cut-offs for clinical diagnosis (91<sup>st</sup> and above), 14% of the sample was found to be overweight or obese. At the other end of the spectrum, 3% of participants in this study were underweight, all of them from the NI sub-sample. This led to a significant difference in BMI between participants from NI and ROI. Furthermore, it was found that for children in the ROI subsample, there was no relationship between child healthy eating scores and their BMI. In contrast, for the NI subsample, these were moderately positively correlated, i.e. children who ate more healthily had higher BMIs. There was no further differences or associations found with BMI and other variables in the study.

### Parents' perception and attitudes

As the children were too young to self-report on their media and eating practices, parents were asked to provide this information. Previous research has indicated relationships between children's media exposure and their food requests, preferences and eating habits, as well as parents' behaviours in relation to advertising (34, 64-67).

#### Children's media use and healthy eating

Parents reported that 34% of children had a TV in their bedroom, 40% of families had a TV in the room where they typically ate their meals and 36% had the TV on during the evening meal. In addition, 25% said the TV was on for most of the morning, while 41%, 36% and 76% said the same for afternoon, evening meal and the evening respectively.

Ninety eight percent of parents reported that their child watches TV. While viewing times ranged from none to over six hours a day, on average, children viewed two hours and nine minutes of TV per day (15 hours, nine minutes per week). Parents sited 37 different channels as the top three favourites, suggesting a wide spread of viewing practices among this sample.

A third of the parents reported that their child uses the internet, for between 10 and 140 minutes per week (mean time of 18 minutes/day or just over two hours/week). Parents sited 23 different websites, mostly linked to child-directed TV channels as well as YouTube, Angry Birds and two educational sites.

A measure of healthy eating was developed for this study, adapted from Andreyeva (34). Scores range from seven to 49, with higher scores indicating healthier eating habits. On average scores for children and parent were 35.8 and 37.8 respectively. In addition, as BMI has been suggested to be related to

physical activity levels, 'time spent outdoors' (in good weather) was used as an indication of children's physical activity levels (68). Parents reported that on average children were out for 24 hours a week (in good weather). However, the daily range was very wide, from 23 minutes to 9 hours and 25 minutes.

A series of Pearson's correlations showed that child's healthy eating was positively associated with mother's education and negatively related to family TV environment, TV viewing and the amount of time spent outdoors. In addition, child healthy eating and parent healthy eating had a strong and positive correlation. Further analysis revealed no differences between children in the ROI and NI, nor any for mother's education; child or family media use, child time spent outdoors; or child or parent healthy eating scores. However, children attending preschool/school in advantaged and disadvantaged communities differed significantly on almost all of these variables. In advantaged communities mothers had more education, family environments contained less TV and children watched less TV, they ate healthier diets but interestingly spent less time outdoors.

#### Parent's attitudes to advertising and perceptions of its influence on children's food choice and demands

An advertising attitudes scale was drawn from the National Preschool Nutrition Survey and was subjected to principle components analysis (PCA) which indicated the presence of two components: the influence of food advertising on children's food requests and eating; and parents' negative attitude to food advertising aimed at young children. Parents held strong negative views about TV food advertising aimed at young children and thought TV had a small to moderate influence on their children's food requests and eating habits. For these attitudes, parents in the ROI and NI did not differ, nor was there a relationship between these attitudes and children's BMI and age.

Negative parental attitudes to food advertising aimed at children were very high across the sample. They were higher in advantaged communities, among mothers with higher levels of education, and parents reporting less TV exposure in their families. Interestingly, parents who reported higher levels of family TV exposure and higher levels of child TV viewing were more likely to report that TV food advertising influenced their child's pestering and eating behaviours. However, it should be noted that these relationships were not very strong (accounting for 10% variance at most).

Most parents reported that their child had not requested food or drink or fast food advertised on TV in the past week. When shopping, parents reported sweets or chocolate to be most frequently requested, fruit or vegetables were second, followed by snacks.

Overall, parents believed that marketing strategies such as free toys/gifts and cartoon characters on packaging as well as family and friends had more influence on their child's food requests and eating than advertising did.

Despite these attitudes however, it was notable that parents had strong negative views of TV food advertising aimed at children. Parents in advantaged communities had higher negative attitudes, as did parents of higher socioeconomic standing and of families where children were less exposed to TV. Most parents reported that they never discussed the persuasive nature of advertising with their children, and almost all parents never asked their children to view advertising-free channels or switch off the TV when ads were showing.

### **Children's nutritional understanding of healthy and unhealthy items**

Children aged three to five years had very high levels of understanding that fruit, vegetables, potatoes and milk are healthy, with no apparent age differences. Children's understanding of healthy items was not related to BMI, socioeconomic status, media use or the type of community in which they attended school/preschool. In contrast, children's understanding of unhealthy items was substantially lower and accuracy increased with age. The most robust difference was found between four and five years of age, although at five years of age children were still only able to identify just over half of unhealthy items as foods one should not eat much of in order to be healthy. Children's accuracy was substantially lower (18-25%) for meal items (chicken nuggets, sausages, chips, etc.) rather than snack or treat items (crisps, ice cream, cupcakes, sweets, etc.) (48-60%). Children's identification of unhealthy items was not related to their BMI, socioeconomic status, media use or the type of community in which they attended school/preschool.

### **Children's knowledge of healthy and unhealthy brands**

Children were able to recall the name (31%) or product (53%) of the brand when they were presented with the brand logos. In addition, 63% were able to match the brand logo to correct product images. Children's ability to recall brand names did not increase significantly between three and five years of age. However, their product recall and their brand matching abilities increased with age, with significant difference between the ages of three and four years. At all ages, children recalled and recognised unhealthy brands more than healthy brands. By five years, children recognised (matched) 92% of unhealthy brands compared to 57% of healthy brands, and knew the name/product of 78% unhealthy brands compared to 37% of healthy brands.

Some children were better at recalling a product or matching unhealthy brand logos, including those children who attended school in disadvantaged communities, who watched more TV, whose homes contained more TV exposure, whose mothers had lower education levels, and who ate less healthily. However, they were not better at recall or recognition of healthy food brands. Healthy food brand recall and recognition was not related to any demographic, media use or eating variables.

## **Children's understanding of food and drink advertisements**

In individual interviews, children viewed four TV advertisements for both healthy and unhealthy food and drinks. After each, they were asked questions about their opinion of the adverts and their understanding of the content and message. Results showed that children's descriptions of the salient features of these advertisements suggest that stories are compelling even where the advertisement is not well understood.

Fewer than one in ten children were able to repeat any voiceover content. Advertisements with which more children were familiar did not have higher voiceover recognition rates either. This ties in with developmental research which suggests at this age, children are only able to attend to one stimulus at a time (69), indicating that the visual/story content is more salient to children than voiceover material. However, between one and two-thirds of children were able to identify the advertised product in each advertisement, and two-thirds or more were able to identify at least one food ingredient shown in each advert. This suggests that children are responding to the content of advertisements in terms of food and food ingredients.

Almost a quarter of children understood that chips and Coco Pops were not healthy; half knew that ice cream was not healthy and two-thirds understood that smoothies were healthy. These proportions reflect the findings of the study of children's nutritional understanding where correct understanding of whether a food was healthy or unhealthy was found to be lowest for unhealthy 'meal' foods but higher for snack/treat foods, and highest for fruit and vegetables.

Children's advertisement liking scores were uniformly high (over 90%) for each of the four adverts they were shown. They had strong responses to dramatic, surprising and 'jeopardy' situations. These responses were also reflected in laughter, gasping and kinaesthetic responses during interviews as they watched and described the advertisements.

Overall, children's responses to these advertisements suggest a high level of emotional involvement and absorption of food information from viewing such advertisements. Even though explicit understanding of the advertisement voiceover and key messages was often low, children's excitement and pleasure indicated that brand loyalty may be developed through emotional responses when viewing the adverts.

## **Conclusions**

This study has identified interesting contrasts in children's understanding of food and knowledge of food brands. The nature of healthy foods is very well understood even by three year olds, while children's understanding of unhealthy foods is still low at five years, particularly for meal-based items. The reverse applied when children's knowledge of food brands was examined: knowledge of

unhealthy food brands was double that of healthy brands in all age groups. Furthermore, while children's nutritional understanding increases significantly between four and five years, their knowledge of food brands advances earlier, between three and four years of age.

The findings also indicate a set of relationships between socioeconomic, TV viewing and healthy eating factors, indicating that environmental relationships with food knowledge and behaviours are complex and need to be studied together. The fact that children's BMI was not related to any outcomes should be interpreted with caution, given the challenges of interpreting one-off measures in this age group and the likelihood that effects on body weight will develop over a number of years.

Overall therefore, children developed brand knowledge of foods and drinks very early. This knowledge favours unhealthy brands while at the same time children know little about unhealthy foods. In addition, indications are that through viewing TV advertisements, young children develop powerful emotional associations with advertised foods. In this context, it is notable that almost all parents never restrict children's TV advertisement viewing or communicate with them about it. Parents should be encouraged to restrict children's exposure to advertisements for unhealthy items, to work towards increasing young children's understanding of advertising and nutrition, and to build on children's frequent requests for healthy foods.

## **Recommendations**

Parents in this study reported very strong negative views of TV advertising of food and drink products to young children, but almost never acted on these views. Parents could be encouraged to talk with their preschool children about the nature of advertising, and to turn off the TV when ads are shown, or skip where possible. Both these forms of intervention have been shown to mediate the relationship between children's TV viewing and their consumption of energy-dense foods (64).

Guides should be developed for parents and professionals working in early education, giving advice on developmentally appropriate ways to talk to children of different ages about advertising. In particular, these could focus on how to talk to children about the persuasive intent of advertisements.

Young children's understanding of healthy foods is far greater than that of unhealthy foods. Education may therefore need to broaden its focus to teaching about unhealthy foods. Material about nutritional understanding should be developed for preschools and guides developed for parents on talking to children about nutrition.

Further research is needed to understand why unhealthy brand understanding is higher than healthy brand understanding in all children, particularly among those in disadvantaged communities. In addition, further experimental research is needed to understand the emotional impact food

advertising has on young children, including exploring the possibility that emotional responses may be shaping children's taste expectancies and preferences.

# 6 Study of preschool/school caretakers and teachers

## Key findings

- Participants were aware of promotional channels used by marketers such as television, free toys with food items, novel packaging and tie-ins with movies or cartoons along with a wide range of creative promotional strategies. Participants mentioned strategies such as the use of humour or fun, animation, different colours, audio, free toys, characterisation, themed messages and appeals based on the physical appearance of the food
- Participants felt that the variety of foodstuffs advertised to children were often unhealthy, time-saving convenience foods and wished that food marketers would apply their creative abilities to promote the purchase of and consumption of healthy foods
- The effect of food related marketing was generally viewed negatively and the majority of those interviewed felt that the school should be a marketing free zone
- Children's unhealthy dietary choices were not wholly attributed to food related marketing; participants felt parents were responsible for steering the appropriateness of their child's diet.
- All participants mentioned that their school had a food and nutrition policy in place, which was guided to some extent by HSE/health board advice and discouraged foods such as sweets, sugary breakfast cereals, biscuits, crisps, popcorn, chocolate and fizzy drinks; while encouraging foods/drinks such as fruits, vegetables, water, milk and fresh unprocessed meals
- Overall, participants were of the opinion that some children aged 3-5 years could tell the difference between the purpose of television advertisement versus that of a television programme, however, they felt that this was dependent on the characteristics and background of that individual child.
- Promotional techniques such as sponsorship, free samples of food items, brand organised competitions/healthy eating packs and tie-ins with computer software/ sports equipment were evident in schools

## **Aims**

- To establish childcare workers' and teachers' understanding of the intent of advertising specifically and its influence on their children's food choice
- To examine whether marketing messages are actively promoted in the preschool/school setting

## **Methodology**

### **Recruitment**

Fourteen interviews were conducted with childcare workers/teachers between March and June 2012. Purposive sampling techniques were used to recruit participants from a mix of rural, suburban and urban communities (full details in chapter 4 methodologies).

Ethical approval was granted by the Queen's University Belfast Ethics Committee.

### **Interview procedures**

Participants views were elicited by experienced interviewers through face-to-face (n=12) or telephone interviews (n=2). Before proceeding to a series of guided open-ended questions, the interviewer informed participants that the questions were designed to explore their opinion of the factors that influenced the food choices of children (3-5 years). Each interview was audio recorded and lasted between 30-80 minutes.

The interview schedule (appendix D) was designed following a review of relevant literature. The schedule was pretested for content, structure, comprehensibility and acceptability with three teachers and refined prior to implementation.

### **Analysis**

Interviews were transcribed verbatim, reviewed by the interviewer for accuracy and imported into the qualitative data analysis software package NVivo9. A template approach was employed to analyse the text (70). Initially, the researchers defined and described the codes based on the research questions. As a result, six broad code categories formed and applied to the transcripts:

- Participants' views on food-related marketing to children
- Food-related policy of the preschool/school
- Children's understanding of food-related marketing
- The effect of marketing on children's food-related behaviour

- Evidence of in-school food-related marketing
- Exposure to food and beverage marketing through play

As data were qualitative, frequencies are used in the broadest sense (e.g. many, few, and several), with quotations to illustrate typical views within each category.

## Results

Participants taught in preschools/schools based predominately in urban districts (64%; n=9), within disadvantaged communities (57%; n=8) in the Republic of Ireland (71%; n=10).

### Participants' views on food-related marketing to children

Participants understood that food-related marketing was an activity carried out to encourage consumer purchase and they could identify a number of channels actively used by marketers to specifically reach children, such as television, free toys with food items, novel packaging and tie-ins with movies/cartoons. Participants praised the creative efforts involved in food promotion to attract children and acknowledge the effectiveness of such strategies in creating intrigue or interest in a product. Participants claimed that they used similar strategies (e.g. use of humour/fun, animation, different colours, audio, free toys, characterisation and appealing physical appearance) within their classroom to promote learning and good behaviour.

According to participants, the variety of foodstuffs advertised to children were often inherently unhealthy, timesaving convenience foods and often 'expensive'. Participants were dismayed and concerned at foods that were marketed as being "healthy" but were in fact full of sugar. For example:

*"Even those things like cheese strings...there's the ad on TV... it's made with real milk and real goodness and all the rest of it and I think no, it's processed and the it's processed again and again then it's packaged in a way that they love it"*

All participants expressed a desire for food marketers to apply their creative abilities to promote the purchase and consumption of healthier foods. Participants almost unanimously agreed that the school environment should be a marketing free zone.

While participants acknowledged that food marketing could lead to unhealthy dietary choices, they recognised that parents were primarily responsible for governing the appropriateness of their child's

diet. However, this did not mean that participants disregarded 'pester-power' often created by food-related marketing and the challenge that this posed for some parents:

*"Because if they didn't see the ads, they [children] wouldn't be in the supermarkets throwing it in the trolley... throwing themselves on the floor screaming if they don't get it... and its less work for the parents to try and change I think if these weren't marketed."*

### **Food-related policy of the preschool/school**

All participants mentioned that their school had a Food and Nutrition Policy, mainly based on the HSE/health board advice and interpreted by the classroom teachers. These policies generally included guidance on which foods should be permitted, code of conduct at meal-times, provision of food on special occasions and catering for children with special dietary requirements.

Foods such as sweets, sugary breakfast cereals, biscuits, crisps, popcorn, chocolate and fizzy drinks were not allowed and/or discouraged within school. These rules were often relaxed for special occasions (birthday parties, school discos etc.) and/or on Fridays which were considered "treat-days" (children were allowed to bring one small treat). Foods encouraged and/or permitted included fruit, vegetables, water, milk and fresh, unprocessed meals. Although no particular brands were mentioned with regards to foods discouraged/not permitted, one participant said that her school discouraged children talking about McDonalds and bringing in the free toys which they had received:

*"We kind of discouraged the Happy Meal show and tell... 'I was at McDonalds and I got these'...because that's kind of marketing"*

### **Children's understanding of food-related marketing**

Overall, participants felt that some pupils between the ages of 3-5 years could differentiate between the purposes of an advertisement versus that of a programme. Participants felt that a child's understanding was positively related to age, and dependent upon the characteristics and background of that individual child. While one teacher thought that the adverts were possibly "too quick" for children when compared to the slow paced cartoons for this age group, other participants disagreed:

*“If they were watching a programme on TV... Barney or Dora, they don't say ‘oh I want a Barney...I want you to get me this’, but if it's an advertisement for a Barney doll, straightaway its ‘oh I want that Barney’...so they do know the difference”*

### **The effect of marketing on children's food-related behaviour**

Participants share a number of observations when questioned about their views on the effect of food marketing on children's food-related behaviour. They reported that children showed brand recognition and got excited when talking about/seeing certain familiar foods such as Tesco Caterpillar cake, Twix's, Kit-Kats, Fruit Pastilles, Bear in the Big Blue House crisps and Snake Jelly babies. In addition, one participant said that her pupils had recognised fast-food outlets (KFC, McDonalds and Dominos) and one supermarket chain (Aldi) whilst travelling on a recent school trip.

Participants also reported that they frequently heard children singing jingles from food advertisements for Coco-Pops, Rowntree, Haribo, McDonalds and Readybrek. In addition, food advertisement characters (the polar bear in Findus adverts and Ronald McDonald) and fast food outlets (McDonalds, Burger King and Eddie Rockets) were popular topics of conversation amongst children and McDonalds often featured as a favourite game, whereby children pretended to order fast-food.

### **Evidence of in-school food-related marketing**

'Below-the-line' promotional techniques (i.e. less conventional, personalised branding building methods) such as sponsorship, free samples of food items, brand organised competitions/healthy eating packs, and tie-ins with computer software/sports equipment were evident within schools.

Three participants revealed that their school would normally receive large quantities of sugar sweetened cereal from a popular cereal brand as part of a charity partnership, in support of their fundraising breakfast for Child Line. In addition, seven participants mentioned that their school collected the computer software/sports equipment vouchers which were distributed free of charge with supermarket purchases from major retailers respectively.

### **Exposure to food and beverage marketing through play**

All participants mentioned that non-perishable food items or food packages were often brought in for play or demonstration. A wide variety of foods/packages such as biscuits, soup containers, box of biscuits, orange juice, milk cartons, baked beans, cans of soup, pizza boxes, empty cereal boxes, yoghurt drinks, rice boxes, yoghurt tubs, egg cartons, cornflakes, coco-pops, chocolate boxes, box of cheese, smoothie box, water bottle, biscuit tins and pasta boxes were specifically mentioned.

However, one teacher mentioned that the food items had to have a 'healthy theme' and another said that they would often discourage unhealthy foods.

## **Conclusions**

Based on the findings from interviews with 14 school teachers and caretakers, it was clear that the effects of current food-related marketing on children were generally viewed negatively, and participants almost unanimously agreed that the school environment should be a marketing free zone. However, two teachers in deprived schools welcomed food-related marketing under the proviso that marketed foods were not extremely unhealthy. While acknowledging that marketing could adversely affect a child's diet, participants said that parents were ultimately responsible for ensuring the healthfulness of children's diets.

The research highlighted that schools do not appear to have a strict policy with regard to marketing and that marketers are often permitted at the discretion of the school. In some instances participants were unaware of the 'below-the-line' promotional techniques used by food marketers.

## **Recommendations**

Schools should be assisted in their efforts to provide/promote healthier snacks and meals. Schools need to evaluate potential in-school marketing practices, such as supermarket voucher schemes, to ensure that these practices do not contradict the nutrition and health messages pupils receive in the classroom. Child-directed advertising practices should be used to encourage healthier eating choices in the school and home environment.

# 7 Qualitative study of parents' experience of food advertising and ways of coping

## Key findings

- Over 40% of participants said that TV advertising had little or no impact on their children's eating habits.
- Majority of parents (85.4%) reported that an increased rate of obesity among children was entirely due to personal responsibility on the part of individual parents and children.
- Nearly 70% reported that seldom or never talk to their children about TV advertising and over 60% said they restricted their children's time watching television.
- Parents named a range of marketing techniques which they found to be effective in catching their children's attention, such as licensed characters, point of sale, brand mascots, premium offers, jingles and use of animation.
- Parents were aware that the intent of advertising was to persuade people to buy products, but said that their children would not understand this.
- Parent's initial reaction to advertising was negative; which may reflect a social desirability bias on the part of the participants as subsequent discussion revealed some parents found adverts to be amusing and clever.
- Parents from advantaged background were more likely to restrict their children's exposure to TV advertising, while parents from disadvantaged backgrounds did not do so. In addition, both groups reported that they did not talk to their children about food advertising.
- Following the workshops, parents reported that they would be more likely to talk to their children about TV adverts' purpose and how they are made as well as making healthier food choices.
- Parents who participated in the workshops also reported increased self-efficacy and confidence in talking to their children about TV adverts, how they are made and whether or not they are misleading.

## **Aims**

- Conduct a survey to explore parental attitudes to food marketing to preschool children
- To qualitatively explore parents' understanding of the intent of food advertising and its influence on their children's food choice
- To pilot and evaluate a media literacy and nutrition education programme for parents of preschool children

## **Methodology**

### **Parents views on food marketing to pre-schoolers**

A cross-sectional survey was administered to members of the EUMOM parenting website ([www.eumom.ie](http://www.eumom.ie)). Respondents had to have at least one child aged less than five years. A web link was emailed to the sample (n=63,528) followed up by a reminder a week later. A total of 3,702 participants completed the questionnaire. The questionnaire was based on a survey of food marketing to children and adolescents (71).

Focus groups were conducted with 16 parents of preschool children recruited using a non-probability purposive sampling technique. Sampling aimed for a balance of participants from different socio-economic groups. The focus groups were facilitated by two female researchers. The discussion guide was developed following a review of the literature. To stimulate discussion, two TV food advertisements (Coco Pops<sup>®</sup> Choc and Roll and McCain's <sup>®</sup> Chip Perfection) were shown to participants. Focus groups were recorded, transcribed verbatim and analysed using an inductive form of thematic analysis (72).

### **Pilot media literacy and nutrition education programme**

Participants were recruited through EUMOM parenting website and the Early Start Programme in DEIS schools. Sampling aimed for a balance of parents from different socio-economic backgrounds who had at least one child aged less than five years. The final sample included 14 participants in the control group and nine in the intervention group (five dropped out before the study commenced). The control group participants received an information pack followed by a booklet containing nutrition information and tips. Participants in the intervention group were invited to attend two workshops focusing on TV advertising, media literacy, nutrition and understanding food labels. Evaluation questionnaires were completed before and after the workshops. Data was analysed using SPSS 20.

## Results

### Parents views on food marketing to pre-schoolers

Most parents reported that they were the primary decision maker (66.9%) in the home in relation to food and beverages, while 32.4% said that they share this responsibility with another person in the home.

Parents reported breakfast cereals, soft drinks and yoghurts/formage frais as the top three types of foods/beverages marketed to their children (11%, 10.9% and 10.8% respectively).

Compared with other types of marketing, parents felt that TV advertising (41.6%) and cartoon characters on packaging (40.7%) had the strongest impact on children's eating habits. Parents educated to secondary school level or to certificate/vocational education level were more likely to feel that TV advertising had an impact on their children's eating habits, while those educated to degree level and above felt it had little or no impact. Number of children also had a significant positive impact on parental attitudes to TV advertising.

Parents reported that food marketing encourages children to ask parents for advertised foods and beverages (57.9%) and promotes unhealthy foods (57%). However, 40.6% of parents said that this does not affect what they buy for their children.

While parents seldom or never talked to their children about TV advertising, they reported restricting their child's viewing of certain programmes (54.4%) and limited their time spent watching TV (62.1%) and using the internet (64.1%). Majority of parents (85.4%) felt that they themselves and their children were almost entirely responsible for increasing obesity rates, while 56.1% believed an unhealthy food environment was also partly responsible. Parents with higher education levels were more likely to feel greater levels of personal responsibility. Cost of food was one of the greatest barriers reported by parents in ensuring their child's healthy eating habits, while barriers that placed responsibility on parents themselves were less of an issue (e.g. time to prepare meals, eating as a family, their position as role models, etc.).

### Qualitative study of parents of preschool children

Four distinct themes exploring parents' understanding of the intent of advertising and its influence on their children's food choices were identified:

#### Parents' awareness of marketing techniques and advertising strategies

Participants mentioned a range of marketing strategies which they found to be effective in targeting their children. These included 'free gifts' with children's fast food meals and collectibles with cereals and stickers on items or as giveaways. The use of licensed characters was given as examples of

techniques which were successful in catching children's eye and parents noted that supermarkets were particularly rich in visual marketing cues.

In relation to TV advertising, parents noted that themed messages and 'gimmicks' were used with success to attract children's attention including creative strategies such as the use of bright colours, animated characters and catchy jingles or loud noises.

#### Parents' attitudes towards advertising

The majority of parents regarded TV advertisements with disinterest and negativity, something to be endured, fast-forwarded through or used as an opportunity to make a cup of tea. Parents from higher socio-economic group displayed more restrictive parenting style and viewed TV advertising as something to be monitored, controlled and avoided. In contrast, parents from lower social classes did not control their children's exposure to TV advertising. Discussions revealed that majority of parents were mistrustful of food advertisements but there was also an air of resignation and acceptance among parents, particularly those from disadvantaged groups.

In addition to this, while parents reported that their food choices were generally not affected by TV advertising, they mentioned that other household purchases could be influenced by advertising.

#### Parent and child communication

While majority of parents said that they did not talk to their children about food advertising, some parents in disadvantaged groups reported that they used food advertisements as a sounding board to discover what foods their 'picky eaters' would try.

Parental communication styles became more evident when parents were asked about how they would deal with children's food requests in supermarkets, where the majority responded with authoritarian and negative. Requests for crisps, chocolate and cereals were refused using a number of verbal strategies ("it's too expensive", "it's not on the shopping list", or "it's bad for your teeth") used as statement of fact and not considered a point of negotiation. Only one parent from the advantaged group reported that they spent time explaining to their child about the link between sugary foods and dentists. In addition, parents also employed diversionary tactics such as asking children to help gather shopping items or giving them snacks such as raisins to keep them distracted during supermarket outings.

#### Influences on children's food choice

There was little consensus when parents were asked how TV advertisements had affected their children's food choice. Parents from advantaged communities, mostly restricted and limited their children's exposure to TV food advertisements, therefore did not have many opportunities to see their child's reaction to food advertisements on TV. However, the attempt to control exposure appeared to

be a result of parents realising that their children would request items if they saw them advertised. In disadvantaged communities, some parents reported that their children were generally disinterested in TV advertisements but the majority said that their children did pay attention to TV advertisements (adverts in general and not specifically focused on food).

Parents perceived themselves as the key influence on their children's food choices. They recognised that children may request items as a result of food marketing strategies and TV advertisements but the parents were in control of the final decision to buy the product. However, a number of parents discussed their children's changing behaviour around food, relating that some of their children could change from eating everything to being very selective. Fussy eating led to a certain amount of permissive behaviour on the part of the parents, for example, if they saw an advertisement for a product they felt might appeal to their child, or if their child requested a particular advertised item, they suggested they would buy it, whether it was healthy or not.

### **Pilot media literacy and nutrition education programme**

#### TV mediation behavioural scale

Parents who participated in the media literacy and nutrition education workshops reported positive differences pre and post workshops in relation to a number of items on the TV mediation behavioural scale. For instance, parents reported increased willingness to discuss food advertisements and food choices with their children. Parents also reported that they would talk about healthier foods to eat after watching an unhealthy food advertisement, and reported that they teach their children about food advertisements and the reasons behind them as a result of attending the workshops.

#### Food information behaviour scale

Parents who participated in the workshops displayed a high level of interest in checking food labels prior to workshops; this remained the case after the completion of the programme. The majority of parents reported that they would read the ingredient list, read the nutrition facts, and check the serving size, fibre content, amount of sodium and weight of the largest ingredient on the food label.

#### TV mediation and food information psychosocial scale

Following the workshop, the majority of parents reported increased self-efficacy on a number of items on the TV mediation and food information psychosocial scale. Post intervention, parents reported that they felt it was important to learn about how TV advertisements were made, they also felt they knew enough about TV advertisements to discuss them with their children and were confident talking about how TV adverts were made. Moreover, all of the participants reported that they felt they knew enough about food advertisements to know if they were misleading.

### TV and food knowledge scale

Results indicated that parents who participated in the intervention had good knowledge of healthy foods pre-intervention. However, their knowledge of advertising techniques and the content of nutrition and ingredient labels did not improve.

## Conclusions

Parents listed TV as one of the top three places children see food and beverages advertised. While recognising that food and beverage marketing encourages children to ask for products and promotes unhealthy eating, almost half of the parents surveyed did not see TV advertising as having an impact on their children's eating habits.

Interestingly, parents reported that they are the primary influence on their children's food choice. However, there is awareness among parents that food marketing techniques, among them TV advertising, are effective in capturing their children's attention. Moreover, among parents in the focus groups reaction to food requests was generally negative and authoritarian.

It is important to note that this study was limited by difficulty in recruiting and retaining participants. Time pressure was the most frequently cited reason for non-participation. Therefore the small sample necessitates that these results be interpreted with caution.

## Recommendations

Given that the majority of parents who participated in the survey and focus groups reported that they did not communicate with their children regarding TV advertising, parents should be encouraged to discuss food advertisements and healthy foods with their children.

Parents also reported that they felt the cost of healthy food was an obstacle in ensuring their child's healthy eating habits. Promotional messages should raise awareness of the ways that families can eat healthily on a budget.

While parents report that they are the primary influence on their children's food choice, there is tacit awareness among parents that food marketing techniques and food advertising are effective in catching children's attention. Further studies with parents would be beneficial to explore this subject.

## 8 Parental attitudes to food marketing and diet of their pre-school children

### Key findings

- Parental attitude to food advertising and marketing was broadly classified under two domains: attitude towards the 'influence' of food advertising and marketing on children and attitude towards the 'control' or regulation of food advertising.
- No clear trends were observed between parental attitude and children's actual food intakes.
- The preschool children of mothers who believed that food advertising had a larger influence on children (i.e. had an overall negative view towards food marketing) had a significantly higher BMI.
- Children of mothers who believed that food advertising had a larger influence were cared for at home most days during the week. These children also consumed significantly more non-sugar-coated ready-to-eat breakfast cereals and significantly less fruit purees and smoothies. At a nutrient level, these children had higher intakes of total fat and saturated fat, and lower intakes of non-milk extrinsic sugars.
- Mothers who perceived a need for control over advertising to children, tended to have children with a lower mid upper arm circumference but differences in relation to perception of control were generally less clear.

## Aims

This study aimed to explore preschool children's mothers' attitudes to food advertising and marketing targeted at children and the relationship between these attitudes to measured food intakes of their preschool children, anthropometric measures as well as lifestyle factors.

## Methodology

Eleven questions (5-point scale) relating to food advertising and marketing were included in the parental questionnaire (see table 7.1) along with other socio-demographic and lifestyle factors. The questions were chosen from paper by Young et al (73), which investigated attitudes of parents toward advertising to children in the UK, Sweden and New Zealand. Parents reported children's diet intake using a 4-day weighed food record and physical measurements such as weight, length/height were measured.

All questionnaires were administered to the parents during the four day period in which they recorded their preschool child's food intake and anthropometric measurements were completed.

**Table 7.1 - Selected Food Marketing Questions**

No.	Marketing Questions
1	Advertising is a valuable source of information for consumers
2	Food advertising leads to bad eating habits in adults
3	Junk food adverts should be banned completely
4	There should be a ban on advertising on foods that are high in fat, salt and sugar aimed at children
5	Children are exposed to too much TV advertising
6	Advertising makes children put pressure on their parents to buy then food
7	The more adverts children watch the more they will want food products advertised
8	Children usually demand food they have seen in TV adverts
9	Most children under 5 years of age understand the purpose of advertising
10	If unhealthy foods were not advertised children's eating habits would improve
11	Advertising healthy food products leads to good eating habits

\*Questions adapted from Young et al (2003)

A two-tiered approach was used to analyse the maternal attitudes to food marketing directed at children. Firstly, factor analysis was conducted to examine the underlying patterns in relation to the attitudes of mothers to food advertisements targeted at preschool children. In factor analysis, linear combinations (factors) were created based on correlations between the marketing questions, where each individual receives a score for the derived factors. However, these scores may be difficult to interpret as an individual can belong to more than one factor and a combination of patterns can exist where individuals who score high on one component may have different scores on the other components. For this reason, cluster analysis was also conducted. Cluster analysis offers the advantage of deriving patterns to food marketing and advertising attitudes that represent homogenous groups' i.e. single membership.

For both of the approaches, differences in dietary, lifestyle and anthropometric measurements for the mothers and/or children were compared across the factor scores and clusters using relevant statistical analysis. For dietary intakes macronutrients, in addition to the amount of foods consumed, were examined.

## **Results**

A total of 487 mothers completed the marketing questions. The preschool children that they represent were evenly balanced in respect to age and gender. No differences in respect to BMI, marital status, ethnicity or education status were observed between the mothers of the different age groups of the pre-schoolers. A summary of the mothers' responses to the food marketing questions is given in Table 7.2.

### **Factor analysis**

Within the factor analysis, two components were observed and based on the loading of questions, these were broadly described as 'Influence' and 'Control'. The 'Influence' component represented attitudes towards the perceived strength of the influence of food advertising to children and the 'Control' component represented the perceived strength of attitudes towards the control or regulation of food advertising. In both, differences were assessed across a gradient of responses using tertiles within each component.

Within the 'Influence' component, it was noted that for mothers who believed that food advertising had a larger influence on children (i.e. had an overall negative view towards food marketing), their preschool children had a significantly higher BMI, were also cared for at home more days during the week, consumed significantly more non sugar coated ready to eat breakfast cereals and significantly less fruit purees and smoothies compared to the children of mothers who view food advertising as having less influence. At a nutrient level, these children also had higher intakes of total fat and

saturated fat and lower intakes of non-milk extrinsic sugars. No statistically significant relationships existed for social class, breastfeeding practices, mother's BMI or mother's age.

Within the 'control' component, differences were less clear. When the same general characteristics were analysed across the tertiles only one statistically significant difference was observed. Children of mothers who did not strongly support the control of advertising had a lower mean mid upper arm circumference than the children of mothers who did support the control of advertising.

### **Cluster analysis**

Subsequent cluster analysis identified a four cluster solution to be most suitable, with cluster 1 containing mothers with a more neutral opinion towards food advertising aimed at children whereas cluster 4 contained mothers who had a more negative opinion towards food advertising. Within cluster 1, the preschool children had significantly lower BMI, WHO BMI Centile and WHO BMI z-scores than the children within cluster 4. In addition, cluster 1 also contained a greater number of children who spent the least number of days cared for at home when compared to cluster 4. The differences between these clusters were comparable to those observed within the tertiles of the 'Influence' component of the factor analysis.

**Table 7.2 – Summary of mothers’ responses to attitudes of food marketing directed at their children (n=486)**

<b>Questions</b>	<b>Strongly disagree</b>	<b>Disagree</b>	<b>Neutral</b>	<b>Agree</b>	<b>Strongly agree</b>
Advertising is a valuable source of information for consumers	7.4%	20.0%	26.3%	36.4%	9.9%
Food advertising leads to bad eating habits in adults	1.4%	13.8%	34.6%	39.0%	11.1%
Junk food adverts should be banned completely	0.8%	15.4%	29.6%	30.5%	23.7%
There should be a ban on advertising foods that are high in fat, sugar and salt aimed at children	1.4%	6.6%	14.4%	33.3%	44.2%
Children are exposed to too much TV advertising	0.2%	4.9%	18.6%	40.0%	36.3%
Advertising makes children put pressure on their parents to buy the food	1.2%	14.0%	23.7%	40.8%	20.2%
The more adverts children watch the more they will want food products advertised	0.8%	10.5%	16.2%	40.2%	22.3%
Children usually demand food they have seen in TV adverts	2.7%	17.1%	35.7%	30.7%	13.8%
Most children under 5 years of age understand the purpose of advertising	20.0%	37.3%	20.8%	15.9%	6.6%
If unhealthy foods were not advertised children’s eating habits would improve	3.7%	24.8%	34.2%	28.6%	8.7%
Advertising healthy food products leads to good eating habits	1.2%	12.0%	29.9%	39.0%	17.9%

## **Conclusions**

Over all the evidence of a defining relationship between food advertising/marketing and subsequent food intake in this cohort remains unclear. Mothers within this population tended to hold strong views about advertising; however, these views could not be related back to actual food or nutrient intakes. The only relationship apparent was for mothers with the strongest perception of influence of advertising having a child with a higher BMI, these children also tending to spend more days in the week being cared for at home. One possible reason for such negative views may be that these mothers were observing more advertising/marketing with their children during the day. However these opinions did not translate into differences in the actual types or amounts of foods that are consumed. To our knowledge, no other studies have explored parental attitudes to food advertising and the diets of their preschool children. This research therefore is unique in the international literature. Furthermore, the findings are strengthened by the nature of the methodological approach: use of a large representative sample, detailed dietary data and a two tiered analysis approach. It should be noted that within this analysis only a limited number of marketing questions were used due to time constraints. Therefore the homogeneity of questions asked could of have led to the research being quite focused in one area.

## **Recommendations**

As food marketing and advertisings is becoming increasingly diverse in its approach further exploration may be warranted to better understand the exact relationship between food advertising and marketing and subsequent food intake in preschool children.

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*safefood:*

7 Eastgate Avenue, Eastgate, Little Island, Co. Cork  
7 Ascaill an Gheata Thoir, An tOiléan Beag, Co. Chorcaí  
7 Aistyyett Avenue, Aistyyett, Wee Isle, Co. Cork

**Tel:** +353 (0)21 230 4100      **Fax:** +353 (0)21 230 4111

**Email:** [info@safefood.eu](mailto:info@safefood.eu)      **Web:** [www.safefood.eu](http://www.safefood.eu)