

FOOD PROMOTION AS A DRIVER OF CONSUMPTION PATTERNS

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The commercial promotion of food and beverage products high in saturated fats, free sugars and salts (hereafter ‘HFSS foods’) is a significant risk factor for the development of diet-related NCDs. Food promotion, defined as the communication of messages designed to persuade or encourage the purchase or consumption of a product or raise awareness of a brand, has a large impact on the consumption habits of individuals and is a prominent aspect of food environments which are considered ‘obesogenic’. Such environments feature an abundance of HFSS foods that are readily available (in schools, leisure centres and elsewhere), accessible (being cheaper, or at least perceived as being cheaper, than healthier foods) and are persistently marketed. This short review summarises the diverse forms of commercial promotion currently used by food and beverage (from hereon referred to as ‘food’) brands across Europe, including levels of expenditure dedicated to this promotion. Within this arena, three major food promotion trends in Europe are discussed; 1) the emergence of digital food promotion, 2) the rise of personalised marketing within digital food promotion and 3) the increasing calls for food marketing regulation. Finally, a brief summary of the evidence on the impact of promotion on eating patterns in adults and children is given.

Food marketing practices contribute heavily to the current obesogenic food environment in the European region; where children are preferentially targeted by food marketers¹ due to their independent spending power (current and future) and sizable influence over family spending.² Marketing to children has an impact on the purchasing choices made by parents and on the food kept in homes,³ thus affecting the consumption habits of the entire family. This influence that children exert on the decision making process of parents has been labelled as ‘pester power’,⁴ referring to the influence of children’s nagging of parents to purchase specific foods, especially in supermarkets and in response to point-of-sale advertising, where it may prove problematic for parents to resist persistent demands.^{4,5} Food promotions seek to influence children’s immediate dietary preferences and build taste preferences whilst securing brand loyalty early-on in life so that preferences last into adulthood.⁶ Moreover, marketing that is seemingly aimed at more mature populations is also influential on children, given that as well as the age group it is intended to target, effects are highly likely to spill over and also appeal to younger children⁷ who strive to follow the trends of older peers. Importantly, food marketing directed at adults has escaped the same level of scrutiny awarded to child-directed marketing with a scarcity of literature assessing its impact on food intake behaviours or weight status⁸. This neglect is partly due to industry resistance and partly to policymakers often assuming incorrectly that all purchases by adults are based on informed and appropriate decision making.

1. The different forms of commercial promotion

Individuals are exposed to an excess of unhealthy food commercial promotion in most traditional platforms (e.g., television, events sponsorship, outdoor advertising, print media, point-of-sale) and, increasingly, via digital avenues (social media, websites). Television advertising is still considered to be highly effective at producing strong brand awareness⁹; this is a critical aspect of advertising, particularly for children and young people. Research from a recent UK survey illustrates that television is the media device that would be most missed by children and adolescents,¹⁰ emphasising its relevance despite the emergence of major digital food marketing forms. Television continues to be a key force in providing children with unhealthy food advert exposure. In response to increasing scrutiny from academics and international health organisations alike, there are evident efforts across Europe towards national and regional policy action with the intention to limit the broadcast of unhealthy food adverts on television (see ¹¹ and Chapter 4 for more on policy efforts in the European region). However, even where statutory frameworks have been implemented (e.g., UK Ofcom regulations), there is cause for concern over their efficacy, and there are worrying practices emerging in the aftermath, such as primarily ‘unhealthy’ brands continuing to market to children on television by displaying food products with a healthier nutritional profile in the advert itself. In a recent study of a major fast food brand, this marketing approach was demonstrated to promote a liking for fast food in general without any resultant shift towards the selection of healthier products by children.¹²

Children can also be exposed to marketing through sponsorship of prominent and international sporting events. During unrivalled events like the Olympic and Paralympic Games, food brands are keen to exploit these platforms to provide unique brand exposure, most often for HFSS foods, to maximum effect. Lobbyist groups¹³ have highlighted the associations consumers explicitly and implicitly draw between food brands (e.g., McDonald’s and Coca-Cola in the case of the 2014 World Cup staged in Brazil) and sport, health and physical activity, as a result of such sponsorship.¹⁴ Outdoor advertising,¹⁵ magazines¹⁶ and point-of-sale within retail settings^{17,18} all also constitute routes through which individuals are exposed to HFSS food marketing. However, more recently, digital food promotion has come to be incomparable in terms of promotional reach and impact. Marketing in digital media is an evolving concept, but is defined by Tatlow-Golden and colleagues as ‘promotional activity, delivered through a digital medium, that seeks to maximise impact through creative and/or analytic methods.’¹⁹ Online marketing now spans digital media such as food company websites, advergames and social media platforms (e.g., Facebook and YouTube) to offer effective avenues of food brand exposure. Although research on digital marketing is much less well established relative to that for television, emerging trends have been observed in personalised targeted marketing and behavioural tracking techniques (outlined in further detail below).

2. Promotional expenditure on European food marketing

Data on the financial resources allocated to promotional expenditure on food brands and products in Europe is challenging to obtain, as such information is often withheld from the public domain. However, estimates point towards a decline in television advertising spend and a rise in digital and non-broadcast advertising spend.²⁰ Spend on internet advertising was expected to rise from 20% of total advertising expenditure

to 30% between 2010-2015 in western Europe, and was predicted to be worth US\$ 38 billion out of a total of US\$ 126 billion by 2015.²¹ Across all domains, online advertising has now overtaken television advertising to become the largest advertising medium in Europe. Recent figures on digital expenditure illustrate that online advertising spend grew to a market value of €36.2bn in 2015, surpassing spend on television marketing in Europe (€33.3bn).²² Data illustrate that manufacturers of consumer goods (which includes food products) spent the most on banner and video display ads in 2015, and were responsible for 18% of the total advertising spend.²²

In the UK, for example, internet advertising expenditure (including online, mobile and tablet) reached £6.3bn in 2013; an increase of 15.6% compared to 2012. It was forecast to grow 14% in 2014, and a further 12.7% in 2015. Within this, mobile forms of advertising displayed a growth rate of 95.2% in 2013 and have continued growing rapidly. Total advertising expenditure on children's television in 2013 was £142m, out of a total television ad spend of £4 642m.

In terms of the effectiveness of digital media advertising spend, a study into a multi-platform Coca-Cola campaign utilising television and social media (Facebook) found that 27% of Coca-Cola's incremental sales were generated by Facebook, using only 2% of the gross media budget allocated to the promotion. Return on investment data illustrates that €2.74 was generated for every €1 invested on Facebook.²³ However, it is important to consider that in terms of cost comparison, advert spend does not directly equate to exposure; as forms of internet marketing cost relatively less than television advertisements. Thus, less expenditure allocated to digital food advertising does not translate into reduced exposure and compared with television alone, social media marketing campaigns have the capacity to intensify marketing effects via tailored marketing.

3. Three major trends in food promotion in Europe

This observed shift towards digital marketing, as represented by promotional expenditure data above, is the first major trend in European food promotion discussed in this review. Multinational food companies are dedicating budget spend to online advertising which now constitutes around 50% of total marketing spend.²⁴ New media marketing varies from traditional forms in numerous respects,²⁵ one example being the way it facilitates peer endorsement of, and personal relationships with, food and beverage brands.²⁶ Such qualities are well-established as essential for strengthening brand awareness and encouraging product purchases.²⁷ Critically, forms of digital marketing are targeted predominantly at children and adolescents, due to increases in their habitual engagement with online media. The major 'EU Kids Online' study (a large survey of 9-16 year olds across 25 European countries) reported that in 2009, children aged 9-16 spent approximately an hour and a half per day (88 minutes) online. Differences in time spent online by age were reported, where 15-16 year olds spend almost two hours per day, on average (118 minutes); twice that of the youngest group (9-10 year olds average 58 minutes per day).²⁸ UK data from 2016 demonstrates that 7-16 year olds spend 3 hours online daily, with children aged 15-16 reporting 5 hours of online.²⁹

Food and beverage companies have recently taken advantage of this trend to expand youth-targeted food marketing into commercial websites, third-party Internet

advertising (i.e. placement of banner advertising on other companies websites), online videos, advergames and social media.³⁰ Vlogging (video blogging) is one example of a relatively recently emerged form of food marketing proliferation on social media, where vloggers are paid to feature HFSS food products (e.g., Oreos) in a game, task or review within an established vlogger's video.³¹ Such word-of-mouth effects, delivered via social media, are considered more effective than marketing driven by brands due to the perceived enhanced credibility of friends' recommendations.³² Indeed, this technique resonates particularly with young adults, as shown by 63% of US adolescents being happy to try a brand suggested by a YouTuber.³³ The impact of such digital marketing campaigns in terms of exposure to food marketing is likely to be substantial.

Further to this, marketers state that digital avenues represent the opportunity to 'deliver media-rich brand campaigns like the ones seen on TV but with more of an opportunity to fine-tune messaging.'²⁴ Indeed, online marketing forms have facilitated a rise in targeted, personalised marketing. This key shift from dependence on broadcast mediums for message delivery has allowed for contextual advertising (tailoring food adverts to viewers' internet content) and online behavioural advertising (tailoring food adverts to users' individualised characters and online activity). These sophisticated methods are unique to online marketing, and are usually undertaken by installing 'cookies'; allowing for detailed data into consumers' online browsing, personal preferences, and social activities.³⁴ This approach allows brands access to the individuals they wish to target, where advertisers, advert networks and data providers collect data on individual users across internet locations and use this to deliver target adverts to individuals. Personal data, including an individual's 'likes' on social media, allow marketers to target consumers with more 'relevant' advertising content. Highly personalised digital food marketing derived from data analytics helps brands to engage with consumers for maximum impact. From a regulatory perspective, this is a challenging development, not previously encountered in traditional marketing forms.

Certainly, HFSS food marketing has amassed recognition from parliamentarians^{35,36} and national governments in Europe³⁷ all concluding that, despite gaps in the evidence base, advertising and the commercial promotion of HFSS foods warrant substantial policy action. The increasing call for regulation in Europe is thus the third food promotion trend discussed in this review. A WHO ministerial conference in the European Region in 2006 cited marketing to children as warranting swift action.³⁸ Resultantly, a European Network on reducing marketing pressure on children was established in 2008, and around 30 countries in the WHO European region now participate in this network. Its objectives include to 'discuss approaches to control marketing of food and non-alcoholic beverage to children, such as statutory regulation, self-regulation, voluntary measures and co regulation' and to 'develop tools and share experiences to support monitoring of food and beverage marketing to children'.³⁹ Pressure from the European Network and other bodies (e.g., World Obesity Federation) culminated in arguably the two most crucial documents relating to establishing food marketing regulations: WHO's *Set of recommendations on the marketing of foods and non-alcoholic beverages to children*⁴⁰ and *A framework for implementing the set of recommendations on the marketing of foods and non-alcoholic beverages to children*.⁴¹ The purpose of the set of recommendations is to guide countries in designing new and/or strengthening existing policies on food

marketing communications to children. Frameworks published by WHO state that governments should apply restriction in this way, thus exerting high-ranking political pressure on nations. WHO asserts that the influence of food marketing related to two components: exposure and power. Exposure relates to the extent of food marketing and is defined as the reach and frequency of the marketing message. Power encompasses the nature of the marketing messages, in terms of the creative content, design and execution of the marketing message.

Some European countries have developed and implemented policies explicitly restricting HFSS food promotion to children (e.g., UK and Ireland), however self-regulatory approaches have been most widely adopted by governments, although these have gained criticism for being narrow in scope⁴² and ineffective. For example, the voluntary commitments of the food industry through the EU Pledge⁴³ were not found to prevent the promotion of HFSS foods to children.⁴⁴ Improved transparency and standardisation of commitments from food industries have been posited as necessary to ensure the credibility of this EU pledge.⁴⁵

Notably, the majority of approaches are limited to broadcast media, in Europe and internationally, with minimal progress observed within the realm of digital marketing regulation. Some exceptions are Denmark and Norway, where self-regulatory schemes (government-endorsed) now cover internet advertising targeting children and Portugal has implemented restrictions for HFSS food promotion on websites which are child or adolescent targeted. Crucially, as a result of increasing levels of tailoring and personalisation, digital marketing may be a potentially more powerful medium than broadcast advertising, warranting stricter control. Thus governments must be supported by public health researchers and international health bodies to develop appropriate policy action to limit digital marketing and its substantial effects, especially on children. A significant challenge to the effective regulation of the digital marketing environment includes the internet's borderless nature and the feasibility of controlling cross-border promotion. Notably, regulation at a national level is insufficient to address the international nature of food marketing. This process must be aided by a robust evidence base. It is plausible that the established evidence base on broadcast media may have abetted the implementation of television food advertising policy. Indeed, a brief summary of the existing evidence of the impact of promotion on eating patterns (consumption and consumption related behaviours) in both adults and children follows.

4. Evidence into the impact of food promotion on consumption and consumption related behaviours

A recent narrative review of studies assessing the impact of food promotion (specific to children; 1970-2013) posits a hypothetical framework of the evidence necessary to demonstrate each of the steps of unhealthy food promotion, spanning awareness of food promotion, attitudes and preferences, purchase intent, purchasing behaviours, consumption and post-consumption effects.⁴⁶ Importantly, this model questions the notion of a simple, direct, measurable link between food promotion exposure and obesity. Therefore, although studies demonstrating the impact of television food advertising as a predictor of weight status in children may be the pinnacle in terms of policy action, this effect would be difficult, if not impossible, to show using experimental methods. Therefore, demonstrating effects more downstream may have

to suffice. Thus whilst studies have sought to show effects in large samples,⁴⁷ research attention has been more focused on demonstrating effects on food intake with this as a proxy for weight gain. This is with the inherent assumption that children (the demographic used in the majority of research studies) do not compensate for excess energy consumed after food advertising exposure and that effects on preference make diets overall more energy dense.

This impact of television food promotion on food intake is readily demonstrated across studies, first scrutinised during the 1980s.^{48,49} More recently there has been renewed interest in this area, due to increasing obesity prevalence and associated concern over potential determinants compromising the obesogenic environment. Studies in UK samples use energy intake outcomes (i.e., gram/kilocalorie (kcal)); where food bowls are weighed before and after *ad libitum* intake session) to measure effect of advert type (food or control). A recent meta-analysis combined the data for all studies that have exposed participants to unhealthy food advertising content, either on television or on the Internet. Results showed that such exposure significantly increased food intake relative to following non-food advertising content or no advertising at all in children, but not in adults.⁵⁰ This analysis included a series of UK studies. The first⁵¹ employed a within-participant, randomised experimental paradigm where children (n=42, aged 9-11) were exposed to food and non-food adverts before a television cartoon. Food advertising increased *ad libitum* food intake across all participants, a finding replicated in a subsequent study⁵² with children aged 5-6 (n=93). Total kcal intake was significantly higher after exposure to 10 food adverts (compared to 10 toy adverts in the control condition). As the test foods used in both studies differed from brands displayed in the food adverts, these data demonstrate that exposure to food adverts elicits a 'beyond-brand' effect whereby food consumption *in general* is promoted. A further follow up study found that all children displayed significantly increased consumption of sweet energy-dense snacks in response to the adverts but intake was greatest in obese children. Obese children increased their intake by 155%, overweight by 101% and normal weight by 89% after food ads relative to their intake in the control condition.⁵³

Researchers have gone further to assess potential moderators and mediators of effects. For example, a UK-based study categorised children (n=66, aged 5-6) as either high or low on a food neophobia scale (i.e. measuring children's reluctance to eat, or avoidance of, new foods) and exposed them to unhealthy food or healthy food advertisements and toy advertisements in the control condition.⁵⁴ Food advert exposure (for unhealthy or healthy items) increased highly neophobic children's intake of foods during an *ad libitum* snack break by 11% (47 kcal). In another study⁵⁵ a potential gender effect was described, where food intake in boys was higher when watching food advertising compared to girls. Maternal pressure to control weight gain was subsequently investigated as a factor in children's eating post-exposure to food advertising.⁵⁵ Children with high maternal pressure increased intake in response to food advertising compared to neutral adverts.

Studies have also explored the direct influence of television food adverts on children's intake response.⁵⁵⁻⁵⁷ US research⁵⁷ has also demonstrated that food advert promotion prompts greater intake, whereby children consumed 45% more snack food after food advert exposure compared to control adverts. Food advertising has been also found to drive desire to eat and motivation to consume⁵⁸ and recent studies

investigate further mechanisms underlying this associations. A recent study found that television food adverts increase the accessibility of food-related cognitions and motivation to eat.⁵⁹

In terms of the consumption-related behaviours (e.g., food choice and preference), research shows that children reject unfamiliar foods⁶⁰ therefore branding can be used by marketers as a practice to overcome this by fostering a sense of familiarity with an entire product range from the same manufacturer. Children who recognise characters, logos and slogans (branding techniques utilised by marketers) from adverts are more likely to select products and brands.⁶¹ A pivotal study⁶² supports this premise but contributed a novel finding to this literature; children did not just choose branded foods, they perceived them to taste better, therefore demonstrating that the value of branding goes beyond conscious choice. Children aged 3-5 years were asked to taste identical foods and beverages in McDonald's or in matched but unbranded packaging. Indeed, although the food and drink samples were identical, children indicated a statistically significant preference for the taste of food and drinks labelled with McDonald's brand logos, typifying how the branding of foods impacts children's preferences. Researchers⁶³ have sought to investigate this further in a controlled laboratory setting by manipulating brand and packaging cues. It was reported that overweight children displayed a cognitive bias toward some food brand images; although the authors note a small sample of children were tested. Thus, this brief summary outlines some examples of evidence demonstrating the impact of commercial food promotion upon children's consumption behaviours.

For adults, fewer empirical investigations of food marketing impact have taken place and conclusions from studies that have been published are mixed. A systematic review of studies conducted in developed countries explored the effects of televised food advertising on adults food-related behaviour, attitudes and beliefs.⁶⁴ The review found a varied impact and inconsistency within subgroups (i.e., relating to gender, weight, and existing food psychology). The authors emphasised the need for longer-term studies (not limited to television food advertising), conducted within countries with differing levels of economic development to further this limited research area. A more recent meta-analysis found that although acute experimental exposure to food advertising did increase food intake in children (as discussed above), in adults, there was no significant overall effect across the seven studies identified.⁵⁰ There are several explanations for this. Notably, these studies were primarily conducted in laboratories (rather than the more naturalistic eating settings, such as schools, children were tested in), and therefore participants were potentially more aware of their food intake being monitored and may have consciously regulated their eating behaviour. Moreover, study aims may have been insufficiently disguised in some studies, leaving open the possibility that the adult participants attempted to amend their behaviour in line with what they believed the purpose of the research was (demand characteristics). There is some evidence that in real life price promotions and retail displays increase purchases of high sugar foods.⁶⁵⁻⁶⁷ In England, for example, 40% of food and drink expenditure is estimated to be on products with price promotions⁶⁵, with more promotions on HFSS foods than healthy foods⁶⁵, a greater impact of promotions on sales in less healthy categories⁶⁶ and an estimated 8.7% of all sugar brought into the home is estimated to be extra sugar bought in response to such promotions.⁶⁷ From the relatively limited evidence base on the impact of food promotion in adult populations, it is not appropriate to conclude that food marketing does not affect

eating behaviour in adults, especially given the massive scale of marketing budgets that companies allocate to promoting HFSS foods to populations of all ages. Further research in this area is certainly warranted.

5. Summary

Food environments across Europe exploit individuals' biological, psychological, social, and economic vulnerabilities, making them more likely to consume unhealthy foods⁶⁸ and impacting on cardiovascular health outcomes. Commercial food promotion is one environmental characteristic driving HFSS food consumption. As outlined, promotion now spans both traditional broadcast forms and integrated and targeted digital promotions. Promotional expenditure data discussed in this short review imply shifts from regulated to unregulated media, ensuring improved targeting and personalisation of marketing messages for maximising impact on consumers. Moreover, despite the initiation of voluntary self-regulatory regimes in Europe, as well as statutory regulation in some nations, evidence implies that current approaches are not adequately tackling commercial food promotion where the whole gamut of promotional techniques need to be addressed including digital marketing. This is an active research area, but the balance of evidence currently sits too far in the direction of television, rather than digital, food advertising effects. While more research is warranted on the impact of digital marketing, there is already sufficient evidence of the combined impact of various forms of food marketing to justify decisive policy action to protect consumers from the ubiquitous marketing of unhealthy foods.

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