



## **The Impact of Food Advertising on Children's Diets A Review of the Evidence**

### **Background**

The current regulatory pressure on food and beverage marketing relies to a significant extent on the evolution of the academic evidence base regarding the impact of food advertising/marketing on children's food preferences, choices and consumption. The consolidation of the evidence pointing to a sizeable effect has in fact prompted increasing calls for regulatory measures to redress the "balance and nature"<sup>1</sup> of food advertising to children.

Industry's position has progressed alongside the evolution of the scientific debate: industry now recognises the existence of an effect of food advertising at category level, not only at brand level. This implies that advertising does have an influence not only on an individual's choice of comparable but differently branded products, but also on the overall attractiveness of a product category (e.g. salty snacks, confectionery, breakfast cereals etc). In turn, this allows for the possibility of an impact on individuals' (and children's) food preferences, and potentially choices and consumption across categories.

While the above is not generally disputed, there is little agreement on the size of the impact and hence its importance relative to a person's overall diet. On the basis of demonstrable scientific evidence, industry believes that this influence is small compared to other factors, and therefore advocates a proportional (self-) regulatory response. This paper gives a brief overview of the scientific evidence and its evolution, so as to highlight the knowledge base of industry's argumentation.

### **The evolution of the research**

The report that set the tone for the debate on the impact of food advertising until today was the Hastings Review<sup>2</sup>, commissioned by the UK Food Standards Agency (FSA) in 2003. This was followed in 2004 by a report by Ofcom, the UK communications regulator<sup>3</sup>; an even wider review of the literature by the US Institutes of Medicine in 2005<sup>4</sup>; and finally by an updated Ofcom report in March 2006.<sup>5</sup> These are the most important reports available on the subject: none of them have introduced new data, but all of them are based on a wide-ranging academic review of the available literature. The academic evolution visible in the four reports reflects the

---

<sup>1</sup> This phrase, first used in the UK White Paper on Public Health (2004), now accurately expresses the intent of regulators internationally, namely to achieve (either via self-regulatory or regulatory means) both qualitative and quantitative change in food advertising as a whole: i.e. less High Fat/Sugar/Salt (HFSS) product advertising ("balance"), as well as more responsible advertising techniques ("nature").

<sup>2</sup> Hastings et al, *Review of Research on the Effects of Food Promotion to Children*, 2003

<sup>3</sup> Ofcom, *Childhood Obesity – Food Advertising in Context*, 2004

<sup>4</sup> Institute of Medicine, *Food Marketing to Children and Youth: Threat or Opportunity*, 2005

<sup>5</sup> Livingstone and Helsper, *Advertising Foods to Children: Understanding promotion in the context of children's daily lives*, 2006

evolution of the political debate to date. To analyse this progression, it is useful to distinguish between the following three dimensions:

- Evidence of impact on food preferences and choices
- Evidence of impact on diet
- Evidence of impact on obesity/health

Evidence of impact on food preferences and choices: Hastings (2003) only found one study<sup>6</sup> that showed a direct relation between advertising and food choices – as opposed to TV viewing and food choices – and which quantified the impact at 2%.<sup>7</sup> Ofcom (2004) identified the impact of TV advertising on food preferences and choices as *modest*, but added that *there is little evidence as to the size of this effect, other than it is small*. IOM (2005) found *strong evidence* of an impact, but again could not quantify it.<sup>8</sup> Ofcom (2006) concluded that the *modest direct effect* on children’s (age 2-11) food preferences is indeed linked to exposure to commercials, although it *remains unclear how this effect operates alongside the complex conditions of daily life at home and school*.

Evidence of impact on diet: Hastings (2003) found that *the literature does suggest food promotion is influencing children’s diet in a number of ways*, but acknowledges that *this does not amount to proof*. Ofcom (2004) did not look at the longer-term impact on diets beyond the unproven findings highlighted by Hastings. IOM (2005) found that the evidence on whether TV advertising directly affects children’s long-term dietary patterns is *limited and less conclusive*<sup>9</sup>. Ofcom (2006) concludes that *expert commentators are now convinced that television viewing plays a role in contributing to the problem of children’s unhealthy diet*. This conclusion is based on the IOM report.

Evidence of impact on obesity/health: Hastings (2003) and Ofcom (2004) found evidence that TV viewing is associated with obesity and health, but none that points to a link between exposure to advertising per se and obesity or health variables. IOM (2005) conceded that *available studies are too limited to determine whether television advertising is a direct cause of obesity among children*, but concluded nonetheless that *the statistical association between ad viewing and obesity is strong*. Ofcom (2006) concluded that there is a **growing consensus that advertising works in its influence on children’s food preferences, diet and health**, and that **given that most advertising to children is for products high in salt, sugar and fat, this influence is harmful to children’s health**.

## Industry position

---

<sup>6</sup> Bolton RN (1983). Modeling the impact of television food advertising on children’s diets. In Leigh JH, Martin Jr CR (eds), *Current Issues and Research in Advertising*. Ann Arbor, MI: Division of Research, Graduate School of Business Administration, University of Michigan.

<sup>7</sup> Hastings found evidence of *small but significant* associations between *TV viewing* and children’s food preferences and choices. However, only one study, quoted extensively in the Hastings Review (Bolton 1983) found that *exposing children to food adverts in a controlled experiment (as opposed to TV viewing tout court) increased snacking frequency by 2%*.

<sup>8</sup> IOM found *strong evidence* that TV advertising influences food and beverage preferences and purchase requests of children aged 2-11, but *not enough evidence* on the influence on preferences and consumption habits of 12- to 18-year-olds. The assertion of “strong evidence” in relation to 2-11 year-olds is based on an even more comprehensive review of the literature than Hastings, but the report does not quantify the size of the effect, other than referring to the same sources mentioned above.

<sup>9</sup> It found *moderate evidence* that TV advertising influences the usual dietary intake of children aged 2 to 5, *weak evidence* that it influences the usual dietary intake of older children ages 6 to 11 and *weak evidence* that it **does not** influence the usual dietary intake of teenagers aged 12 to 18.

Industry acknowledges the existence of a “modest effect” on food preferences and choices (“advertising works”), but does not consider that the evidence allows drawing the above conclusions in relation to children’s longer-term diets and health, for two main reasons:

1. Very few studies have managed to disentangle the impact of TV viewing from the actual impact of exposure to advertising:

- Hastings 2003: States that *it is impossible to say whether effects on food intake during TV viewing are caused by the advertising, the sedentary nature of TV viewing or snacking that might take place whilst viewing.*
- Ofcom 2004: Acknowledges that *little empirical research attempts to disentangle the potential effect of the sedentary activity itself, the association of TV viewing with frequent snacking and the potential exposure to food advertising.*
- IOM 2005: Concedes that more research is needed to distinguish between these different effects.
- Ofcom 2006: Recognises that it remains unclear whether the effects identified reflect the specific influence of exposure to television advertising or whether it is due to increased snacking while viewing or to a sedentary lifestyle with reduced exercise.

2. Very few studies attempt to measure the size of the impact. Those that do, find it to be ‘modest’ at best; given only a marginal impact on short-term consumption, it is not possible to draw any meaningful conclusions on the impact on longer-term dietary and health variables. Other factors play a much more important role:

- Hastings 2003: Finds little evidence to show whether the influence of food promotion on children’s food behaviour and diet is greater or lesser than that of other factors.
- Ofcom 2004: Finds that there is insufficient evidence to determine the relative size of the effect of TV advertising on children’s food choice by comparison with other relevant factors, but concludes that *the influence of advertising is small compared to the child’s own taste preferences, price and familiarity.*
- IOM 2005: *Recognises the multitude of influences and the relative modesty of the impact of advertising.*
- Ofcom 2006: Concedes that multiple factors account for childhood obesity and that television viewing/advertising is one among many influences. Other factors include individual, social, environmental and cultural factors, all of which *interact in complex ways not yet well understood.*

## **New research and implications**

The gaps in the scientific understanding of the issue identified above (separating the impact of TV viewing from that of actual exposure to advertising; and measuring the size of the impact on longer-term dietary and health variables) are widely recognised. This is giving rise to new studies that seek to fill in these knowledge gaps. Two recent studies are particularly noteworthy:

## **I. When Children Eat What They Watch: Impact of Television Viewing on Dietary Intake in Youth. Wiecha, J.L. et al, 2006:<sup>10</sup>**

- Examined the television viewing, eating habits and physical activity of more than 500 children aged 11 and 12, over 20 months.
- Finds that for each hour of additional TV viewing, a child's dietary intake increased by 167 Kcal. This would constitute up to 9% of a child's recommended daily intake.
- Also finds that the increased calorie intake is explained by an increase in the consumption of foods commonly advertised on TV.

The study does not put a figure on the actual impact of advertising on energy intake. However, it infers that advertising plays a major role, because advertising 'mediates' the relationship between TV viewing and calorie intake: increases in the latter are explained by increased consumption of *product categories* that are frequently advertised (baked sweet snacks, candy, fast food, fried potatoes, salty snacks and sugar-sweetened beverages).

### Critique:

By the authors' own admission, the study did not directly correlate exposure to TV advertising, as opposed to TV viewing in general, with energy intake. Nor did it assess whether the increased energy intake was due to consumption of food products actually advertised on TV while the children were viewing:

*"Another potential source of error is in the use of television viewing time as a proxy for exposure to advertising. Although we assumed that, on average, youth who watched more television were exposed to more advertisements, we did not assess what programs or channels subjects were exposed to, both of which could affect the total "dose" of advertising. We also had limited ability to control for other potential confounding variables, such as baseline levels of moderate and vigorous physical activity and body composition, which may also have contributed to bias in estimates of association. Causality is suggested but not proved by our findings, which are observational and not experimental. Generalizability may be limited because of the nature of our sample. Further research could address these limitations through a randomized trial to reduce television viewing in a broader population of youth using survey instruments that collected data on sources of food."*

## **2. Does Children's Screen Time Predict Requests for Advertised Products? Chamberlain, L.J. et al, 2006:<sup>11</sup>**

- Examined the relationship between children's screen media exposure and requests for advertised toys, food and drink products, by observing the behaviour of 827 third grade children as a baseline and 386 students in 6 schools over twenty months.
- It found that:
  - At baseline, children's screen media time was significantly associated with concurrent requests for advertised toys and foods/drinks.
  - In prospective analysis, children's screen media time at baseline was significantly associated with their mean number of toy and foods/drinks requests 7 to 20 months later.
  - The relationship with future requests for toys remained significant for total screen media exposure.

---

<sup>10</sup> Archives of Paediatric Adolescent Medicine, Vol 160, April 2006.

<sup>11</sup> Archives of Paediatric Adolescent Medicine, Vol 160, April 2006.

- The authors conclude that: “Screen media exposure is a prospective risk factor for children's requests for advertised products. Future experimental studies on children's health- and consumer-related outcomes are warranted.”

### Critique:

Far from demonstrating that advertising is a risk factor, the study actually shows that, while advertising does work, its impact on children’s requests for advertised products is modest. As the *detailed findings* of the study show, the level of additional requests for advertised products following increased screen media exposure is minute:

- Third graders reported an average of nearly 11 hours per week of TV watching and nearly 23 hours per week of total screen media use. They also reported requesting an average of about 2 foods or drinks every 3 weeks.
- **An extra 1 hour per day in total weekly TV viewing at baseline was associated with an [one] average extra request for an advertised food/drink about every 6 to 13 weeks (0.08-0.15 requests per week) 7 to 20 weeks later, and an extra 1 hour per day of total screen media exposure was associated with an [one] average extra request for an advertised food/drink about every 13 to 24 weeks (0.08-0.04 requests per week) 7 to 20 months later.**

The number of requests for advertised products seems hardly out of the ordinary, and the incremental effect of increased media exposure is actually negligible. It seems unlikely that this level of requests could have anything but a minimal impact on diet and it even more unlikely it could impact long-term health indicators. In addition, requests do not reflect actual consumption – children, even third graders, will usually heavily rely on parental purchasing decisions.

Finally, and as in almost all studies on this subject to date, the impact of advertising is extrapolated from the impact of media exposure as a whole: “A limitation of our study is that we assessed screen media exposure as a proxy for advertising exposure and not advertising directly. It would be methodologically difficult to measure actual exposure and attention to advertising in a population-based study.”

### **Outlook**

The recent reviews of the evidence cited above have given much academic and political exposure to the issue and highlighted the knowledge gaps. The need to base regulatory decisions on scientific evidence will ensure that studies on the impact of advertising on children’s food preferences, choices and consumption, diets and health will proliferate in the near future.

As suggested by Chamberlain et al. (2006): “Further prospective studies could be designed to further establish advertising directed at children as a risk factor for obesity and consumerism and help identify biological, psychological, and/or social factors that may moderate an individual’s susceptibility to advertising and marketing messages and/or mediate their effects on behavioral and physiological outcomes.”

Recent studies, such as those analysed above, are still relatively weak methodologically and inconclusive in their findings. If anything, they show that the impact of advertising is marginal. Yet all that emerges in the wider public domain are the unquantified and unqualified findings of such studies, which often give a misleading picture.