Exploring the Link between Obesity and Advertising in New Zealand

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Abstract

This paper reviews the debate on causes and potential solutions to growing obesity, and whether there is a proven correlation with advertising, particularly among children. We first consider this debate from the context of the burgeoning literature on this topic. We then present the findings from an empirical study with parents of primary-age children in New Zealand. However, any kind of proposed relationship between obesity and advertising tends to be as much emotive as evidential, with for-and-against-camps lined up to defend entrenched positions. But, it does seem fair to argue, that while

advertising does present a problem in relation to food selection choice, that the problem is exacerbated by many other issues such as: peer pressure, quality of life, in-school food services, nearby retail outlets, and social class criteria. Thus, easy solutions based on insufficient evidence which have failed to substantiate causal effects between advertising [ostensibly] directed at children and nutrition can be seen as inequitable and thus ineffective in their intended aims. Although here, we consider the problem from a New Zealand perspective, the findings may have implications for research elsewhere in the world.

Exploring the Link between Obesity and Advertising in New Zealand

Introduction

With no deliberate pun intended, obesity is a growing and widespread problem. Reports of the exact magnitude of the problem vary, largely due to different reporting methods, but there is no questioning that obesity is now a serious worldwide concern. Danner and Molony (2002) suggest that nearly 55% of the American population are overweight, while Sibbald (2002) quotes American Surgeon General's figures setting the percentage of the American population who are overweight or obese at 60% of the population, and notes that obesity in children had more than doubled between 1981 and 1996. In New Zealand (often considered to be full of healthy athletic types) Ministry of Health data in 1999 indicated that 52% of the population were overweight, and 17% were clinically obese. There is of course a huge medical cost worldwide for obesity-related problems. Ahmad (1997), for example, claimed that obesity across adults and children accounts for $40 billion of the total treatment costs for heart disease, diabetes, high blood pressure, gallbladder problems and some types of cancers in the United States alone. In relation to children, specifically, Cristol (2002) noted that obesity is now indicative of a worldwide epidemic, with 25% of American children, 16% of Russian children, and 7% of Chinese children aged 6 – 18 either overweight or obese. Further, Cristol asserted that obese children are putting themselves in very real danger of heart disease and stroke by the time they are 30.

Just as obesity among children is increasing, advertising targeting children has become a high growth area. It is fuelled by the significant buying power of the group and their concomitant influence on a wide range of products and services purchased for the wider household (see, for example, Ahuja et al., 2001). Dobrow (2002) asserts that considerable effort goes into planting the seeds of brand loyalty within children. Hunter (2002) suggests that American children influence as much as 80% of a family's food budget. High exposure of children to advertisements for foods high in fat and sugar is perceived by some policy makers and influencers to be a major contributor to current and indeed future obesity problems.

Sprott and Miyazaki (2002) suggest that consumer protection and information provision research has declined - rather than increased - over the years. But, the perceived negative impact of advertising on children has received continuing focus since the 1970s (see, for example, Donohue, 1975; Eagle and de Bruin, 2001; Kaufman, 1980; Young and Webley, 1996). The spectre of potential restriction on advertising to children first appeared over two decades ago (Kaufman, 1980). It continues to haunt marketers worldwide (see Eagle and de Bruin, 2001). A parallel spectre is the threat of an imposition of some sort of 'sin tax' on foods deemed to be unhealthy (see Ahmad, 1997).

This paper reviews the literature particularly relating to children, nutrition, and advertising. It initially analyses the evidence put forward to support social engineering remedies such as restrictions on advertising or punitive taxes proposed by policy makers, to address concerns in this area. Admittedly when

rises in obesity and attendant costs are considered together with children's vulnerability in terms of limited emotional and cognitive capacity to make fully rational decisions (see Ahuja et al., 2001), calls to give children special protection from marketing communications are not only understandable, but desirable. However, the existent evidence indicates that suggested remedies, while well intentioned, are potentially misguided and perhaps destined to be ineffectual in dealing with what is a very real and major potential health problem amongst children.

Data provided in this paper are mainly from New Zealand. The issues and research findings discussed do have relevance and generalisability beyond New Zealand because of the global nature of the problem. We examine the interventions available to countries grappling with similar problems and, following reportage of a small-scale empirical study in New Zealand, conclude with recommendations for further research.

Marketing Communications and Poor Dietary Habits: Is There A Mistaken Correlation?

Main arguments concerning perceived harmful health effects of advertising have recently centred on the advertising of food and soft drink products and the assumption that this is a major cause of unhealthy dietary habits, obesity and nutritional problems. The underlying assumption is that a range of societal problems will be *ergo* removed through the imposition of either stringent restrictions or bans on advertising – which is of course the most

visible and accessible form of external influence, (see, for example, Higham, 1999). Proponents of restrictions on advertising to children would find correspondence with the following statement:

> "Eight in ten adults agree that business marketing and advertising exploit children by convincing them to buy things that are bad for them or that they don't need" (Heubusch, 1997: 55).

The highest concerns are always in relation to food/nutrition issues (see Dibbs, 1993; Marquis, 1994). Governments are ostensibly under pressure to be seen to act on constituents' concerns, but, restricting or banning advertising to a group seen as particularly vulnerable to marketing manipulation or imposing punitive taxes as a direct social engineering attempt to change behaviour may seem easy ways to show that a government takes such issues seriously. The factual evidence for, and the efficacy of such actions, however, appears dubious as we now discuss.

In relation to children, it is commonly highlighted that the majority of foods advertised to them are 'highly processed', i.e. high in fat and sugar and low in nutrients, such as crisps, sweets, icecreams, fizzy drinks, and many other novel, ostensibly 'food,' products. Consumption of these foods is seen as not only undermining parents' dietary preferences but also contributing to increasing weight and associated health problems among children (Hill and Radimer, 1997; Story and Faulkner, 1990). The real concern is that more than 80% of obese adolescents sustain their obesity in adulthood (Craypo et al.,

2002), primarily because dietary habits developed when young persist over time. Assumption of a direct cause-and-effect relationship is usually inherent in these criticisms – i.e. brand advertising is the direct cause of the weight and health problems and this appears to be widely accepted by critics and by some policy makers (McGovern, 2002). Causal factors behind these problems may, however, be more complex.

While the obesity problem is very real and needs to be remedied, the causes and hence potentially effective solutions are by no means straightforward. The issue is not helped by over-emotive demonising of fast food as the (sole) cause of obesity and its related health problems (Newth, 2000). For example, McGovern (2002) cites Ralph Nader who declared McDonald's double cheeseburgers 'to be a weapon of mass destruction' and Simontacchi's earlier (2000) book titled: *The Crazy Makers: How the Food Industry is Destroying Our Brains and Harming Our Children* did nothing to facilitate understanding. Nor does it seem to help when an entire industry moves to demonstrate social responsibility. For example, when the American Fast Food Industry attempted to fund a multi-million dollar advertising campaign to warn of the dangers of eating too much fast food (WARC, 2002) the campaign either was unrecognised and/or derided by critics. In fact, many initiatives and resources developed by members of this industry in community support go well beyond their legal obligations. Their efforts for the benefit of society at large, such as road safety education in schools, go unrecognised (Brønn and Vrioni, 2001). Of course, the fact that such initiatives invariably support the overarching corporate and marketing communications strategy, is clearly recognisable (see Kitchen and Schultz, 2001).

Avery et al. (1997) allege that television advertising particularly provides unhealthy messages about food, nutrition and weight, and several other studies have confirmed that advertisements in children's programmes promote foods that are high in fat and sugars and relatively low in nutritional value (Brown, 1996; Taras and Gage, 1995; Kotz and Story, 1994). Critics therefore state that television directly influences children's health and dietary behaviours (Byrd-Bredbenner and Grasso, 2000). But, uncritical acceptance of empirical findings from studies with limited generalisability is imprudent. For example, Donohue (1975) reported that children who were heavy television viewers believed that, to maintain good health, they should take advertised medicines and vitamins, drink soft drinks, and eat fast foods. But, the sample was limited, unrepresentative, and the methodology may have introduced considerable bias in terms of response. Now, nearly three decades later, this study is dated, but it is still frequently cited in support of those claiming direct negative influences of advertising on children.

In 1996 a major British study into food products was undertaken for the Ministry of Agriculture, Fisheries and Food by Young and Webley. This study countered many direct advertising/food linkage assumptions, and suggested that there was then no evidence that advertising is the principal influence on children's eating behaviours. In addition, this study showed that there was no serious or methodologically sound evidence that shows that food advertising led to an increase in the consumption by children of whole categories of food (i.e. fast food). This of course does not imply that

advertising has no direct impact on obesity, rather that there is no evidence to support this claim.

Proponents of a direct link between exposures to food related imagery and obesity have distorted the debate by focussing on the impact of advertising without taking into account the impact of the television programme environment. Kaufman (1980) provides a more balanced approach with her content analysis of American television advertising within the programme context. She found that commercial references to fruit and vegetables outweighed programme references to these food types by more than 3 to 1. Further, she found that 64% of non-nutritious foods were represented in programme content rather than in commercials, while 62% of nutritious foods were represented in commercials. In addition, she highlights that television characters rarely ate balanced meals but rather snacked between meals, portraying both food choice and eating behaviour associated in real life with problems of weight control and nutrition – yet television characters are rarely depicted as obese. There may well be some validity in this observation as Irving and Berel (2001) suggest that exposure to media that promote a thin ideal of beauty may be associated not with overeating and obesity, but with the opposite extreme – eating disorders. It should be noted that the Kaufman study is now over two decades old and a replication / extension of the study could prove invaluable. It is worth noting the increasing prevalence of programme sponsorship and in-programme product placement that has taken place since the 1980's (Kitchen, 1999). This is just as much part of marketing as is advertising.

There is a considerable amount of evidence to suggest that poor diet (14% of children do not eat enough fruit and vegetables), and a sedentary lifestyle (only 50% of children do not exercise regularly or in some cases at all), together also contribute to potential health problems (Cristol, 2002; Baxter and Thompson, 2002; Ulrich, 2002). Changed and continually changing lifestyles may also contribute to problems. Cowell (2001a) asserts that children now lead more independent lifestyles than did their parents and are no longer shielded from the realities of life. Today, children opt for their own preferred food and drink rather than acquiescing to parental preferences. Hunter (2002) reports a 1999 study in which 26% of American 6 – 17 year olds were involved in meal preparation for the family. An interesting commentary on today's lifestyles is that, when asked where they had learned to cook, many of the children surveyed indicated that they simply followed the package instructions.

However, it cannot be inferred that 'traditional' home prepared family' meals are in fact 'superior'. Lino et al. (2002) clearly stress that quality of children's diets varies by socio-demographic status. Further, Escobar (1999) notes that the more hours women work outside the home, the fewer hours are spent preparing meals, and the more meals their children eat away from home, but *note* often with positive effects on children's overall nutrition intake. It would seem to be crucial to undertake empirical research on the range of variables that influence children's food preferences.

Schools have taken initiatives such as controlling food range (Craypo et al., 2002), running advertising literacy skills, diet procedures, dietary practice, and nutrition programmes (Lord, 2000). Lack of awareness of healthy alternatives is not likely to be an issue. Hitchings and Moynihan (1998) assert that most children know what constitutes a healthy diet – but this knowledge often is not reflected in the foods actually eaten. Martin (2002:26) states that:

> "Educators are on record as saying that so-called junk food and soda are often sold on campuses largely to keep students from leaving schools to get the snacks they demand".

Johnson (2002: S91) stresses that the "liking for sweet taste is innate and has been noted even in utero".

Mills (2001) posits that children (and perhaps also adults) like unhealthy food *because* it is unhealthy, perhaps linking to the 'forbidden fruit' hypothesis (Cantor and Nathanson, 1997), which is based on the theory of psychological reactance (Rummel et al., 2000). This theory states that people become motivated to assert their freedom by performing behaviour when it appears that their freedom might be threatened or restricted. Thus, parental disapproval of particular television shows or foodstuffs can be interpreted by children as threatening their freedom of choice – and may motivate them to consume more of the product disapproved of – precisely because of the disapproval.

Further, it is claimed (Anon, 2001) that when children aged 7 – 17 eat in restaurants, they consume an average of 55% more calories than when they eat at home. But are such statistics meaningful to the current debate on the correlation between obesity and its presumed causes? *Ergo*, we know that a complex set of factors affects the rising incidence of overweight people. Lifestyles, exercise, stress and factors related to the socialisation of children all contribute – i.e. not just advertising. Matorin (2001: 50) observes:

> "We, multi-task, we eat while we work, we power-lunch, we eat while we drive, fly, walk and run. Ergo: we demand convenience … we have no idea what we are eating. We inhale our food. Thirty seven percent of all quick service occasions occur at the drive-through, (so) who has time to stop and eat?"

It is argued that lifestyle, particularly exercise choices, and dietary choices are likely to be influenced primarily by parents (Lord, 2000). In terms of the latter, maternal influences appear to be the strongest (Anon, 2002), with maternal feeding practices, such as pressuring a child to eat everything on their plate, more strongly predict a child's adiposity levels than the child's energy and fat intake. Thus, children can be persuaded not to regulate energy intakes. Given this, the strongly criticised promotion by fast food chains of large portions (Kucharsky, 2002) would appear to be contributing to excessive calorie intake in some children. An aspect usually neglected in this debate is the influence of peer pressure on children. Cioletti (2001) points to the importance of social interaction and peer approval for children.

Increasing weight reflects an excess of calories taken in over those used by the body. Diet is a factor in this, as is lack of exercise. Daily (2002) stresses that modern society is both sedentary (i.e. getting too little exercise) and highly mobile at the same time, but also highly reliant on cars for mobility. UK government research (see, for example, The Advertising Association, 2000) shows in fact that children are healthier than ever before in nutritional terms, and that obesity is more directly linked to a lack of exercise than to over-eating. The report suggests that a dramatic decrease in physical exercise has occurred as children turn to solitary, physically static electronic games / computer based activity rather than traditional team sports. This is supported by American research (Lord, 2000) indicating that children are far less involved in physical education and spend considerably more time sitting before cathode ray or computer screens, thus becoming 'couch' or 'mouse' potatoes.

USDA (1998) data shows that adult Americans have lowered the percentage of calorie intake from fat from 45% in 1965 to 34% in 1995, stressing that increases in calories have come primarily from increased carbohydrate consumption. This raises a new controversy – recent medical evidence suggests that, similar to good and bad fats, there are good and bad carbohydrates and overloading on carbohydrates, or the wrong ones, can contribute to obesity and the risk of heart disease (Eller, 2002).

What do you mean – all that advertising doesn't affect sales?

At an aggregate level, Bang (1998) has shown that advertising has no effect on overall sales levels. In fact, as Cowell (2001b: 474) aptly draws attention to, this is:

> "An interesting point which all those companies who spend millions on advertising and marketing to children might like to consider".

The nature of the market has a direct bearing on the impact of advertising. Ambler (1996) highlights that total advertising does not affect total market size in a mature market (see also Guiltinan et al., 1997 who considers this via classical product life cycle theory). The high visibility of efforts to capture greater market share from competitors in similar product categories through brand differentiation advertising, has however meant that there is little appreciation of the impact of advertising on overall sales. Suggestions that advertising has little or no impact, especially in mature markets, are usually met with derision by policy makers and lobbyists who favour more stringent interventions. Such derisory comments regarding aggregate sales effects, miss the point of percentage changes in market share for brands, which may equate to tens of millions of income for a company. Thus, while aggregate sales seem stable, the fight by multinationals continues for mind, heart, and market shares (see Kitchen, 2003a and 2003b).

Thus, added restrictions on advertising for products that have entered the maturity phase of the product life cycle, such as the major fast food types, are unlikely to have a significant impact on demand. It is interesting to note that, while AC Nielsen reports substantial advertising expenditure by major fast food chains (see Table 1), in New Zealand, the unadvertised food category of fish and chips accounts for considerably more sales than other categories such as burgers and fried chicken that are associated with the heavily advertised fast food products (see Table 2).

(Table 1 about here)

(Table 2 about here)

Stringent restrictions on advertising in one/some media segment(s) usually leads marketers to reposition advertising to other non-regulated media. Drastic intervention such as bans can have a perverse effect. Illustrative is an interesting study from the 1970s on the impact of cigarette advertising bans. This study implied that a ban on cigarette advertising in the broadcast media had led the tobacco companies to sharply increase their print media advertising, accounting for a real increase in the percentage of smokers over the period of the study (Teel et al., 1979).

Smith (2002) cites recent UK industry research that indicates that price and consumer wealth do impact on overall category sales for fast foods, whereas advertising's primary influence is on market share within the category. He also notes industry warnings that a ban on advertising would result in an

investment of the 'savings' in price (i.e. price reductions) – which would be likely to drive category volume sales up further.

The New Zealand Study

With the previous literature review in mind, we now report on an empirical study derived from a survey of parents/primary caregivers from a range of primary schools across Metropolitan Auckland, New Zealand's largest centre of population. In New Zealand, the discussion of the ill effects of advertising in the context of younger children has chiefly focused on the advertising of food products that lead to unhealthy dietary habits and nutrition problems among children. In line with similar medical forums overseas like the National Forum on Coronary Heart Disease (see, for example, Marquis 1994), in New Zealand too the National Heart Foundation (2000) has expressed concerns about the impact of advertising on heart disease. It has been alleged that children are getting fat on the 'wrong' foods, due to advertising being a "powerful promoter of bad eating habits", with a resultant "lifetime of ill-health" and therefore the Government should ban advertising for such products (Kedgley 2000: A13).

Motivation for study

Increased New Zealand focus on the impact of advertising on children was sparked by a governmental review of broadcasting policy and proposed ban on advertising during and around children's television programmes noted above

(see Labour Party, 1999: 5) and the assumptions implicit in this policy document that advertising was a direct cause of a range of social ill-effects, especially in regard to unhealthy dietary practices. An initial study, in the interests of informing public debate and policy making was carried out by Eagle and de Bruin (2001) and provided an overview of the current New Zealand framework of advertising regulation. This earlier paper helped inform and underpin the current research.

Objectives /Methodology

A questionnaire was developed, drawing initially on material from the government policy document and assumptions underlying the proposed policy with regard to perceived direct linkages between exposure to advertising messages and negative influences on children (see, for example, Bingham 2000; Brown and Daniels, 2000; de Bruin and Eagle, 2002; Kedgley 2000), together with the implicit assumptions that the imposition of the recommended ban would, without further interventions, help eliminate a range of societal problems (see, for example, Higham, 1999). In accordance with the preceding literature review and the above criteria, specific objectives of this study were to determine the views of parents of primary-school aged children (aged 5 – 12 years) regarding:

- perceptions of the amount of television viewed by their primary school aged children,

- agreement with a range of statements regarding food and nutrition issues,
- perceptions regarding their children's attitudes towards a balanced diet, and
- perceptions regarding the impact of advertising on their children.

The research instrument was extended and strengthened by the inclusion of items developed from the literature, particularly frequently voiced, and often emotionally rather than empirically based criticisms, relating to advertising directed at children. The questionnaire was pre-tested using a convenience sample of parents and then piloted with parents/primary caregivers from one school. No problems were found with regard to either wording or question sequencing and the study was then extended to encompass a representative range of schools.

The survey then undertaken was restricted to Metropolitan Auckland, a geographic region containing 28% of the total New Zealand population (Statistics New Zealand, 2001). Schools were selected from a list provided by the Ministry of Education, which classifies New Zealand schools from deciles 1-10, with decile 1 associated with the lowest socio-economic group, and 10, the highest[1]. We chose a stratified sample of schools to represent state, private ('elite'), and religious (Catholic) state school sectors. Where a school declined to participate, a replacement with a similar socio-economic profile was

[1] Schools in New Zealand are classified from deciles 1 –10, with decile 1 associated with the lowest socio-economic group and 10 the highest. Factors taken into account are based on various criteria such as household income and parental educational qualifications and these ratings determine supplementary funding.

selected as a replacement. This occurred four times with the lowest decile level schools. The rationale given by these schools for declining was that they were often portrayed in a negative light in social policy research. With the agreement of each participating school's Trust Board and the support of each Principal, a questionnaire together with a reply paid envelope, was enclosed with the regular school newsletter to parents that was routinely taken home by the pupils. A covering letter from the school Principal explaining the origin, purpose and intention of the survey was also attached. Response rates are shown in Table 3. 34% of respondents were from households with only one primary school aged child, 40% of households had 2 primary aged children, 20% had 3 primary aged children and 6% had four or more children. 87% of respondents were female and 13% male. This level of response is consistent with expectations for such a school administered questionnaire.

(Insert table 3 about here)

Research Findings

Generally, the most visible and common form of the communications media – television advertising directed at children - has been the focus of the 'regulation debate'. Our study however showed that television viewing is moderate and that there is growing exposure to other electronic media e.g. the Internet, where marketing communication is diverse, and where practices are much harder to monitor and regulate. In the high socio-economic (decile 10) group there was claimed particularly low television viewing across all time zones (before 9am, after school - 6pm and 6pm - 10pm on school days; before

noon, noon - 6pm and 6pm - 10pm at weekends). Parents from these groups indicated that television viewing was not an everyday event, with unprompted comments such as “TV for the children is a planned event”; “don’t believe in TV”; “we are very selective with viewing”; “we hardly watch any TV programme except the News”.

Viewing levels in after school hours is relatively higher for lower decile schools than for the higher decile schools. This reflects a number of factors:

- Higher decile schools have a greater range of after school activities for children and / or higher decile parents are more able to afford paid ‘elective’ activities.

- Low decile parents are, from several parents’ general comments (for which space was allowed on the questionnaire), aware of, but not happy with, their children’s heavy viewing. However, they also indicated that both parents were working out of economic necessity and that they could not afford the fees for desirable sports clubs or other out-of-class activities. Some children therefore watched television until one or both parents came home.

- Low decile families were less likely to have computers or electronic games in the home. Television was therefore the major ‘entertainment’ vehicle for these children.

Viewing of television during prime (6pm – 10pm) viewing time is heavier for low decile children, again largely reflecting the lack of alternatives such as computers or electronic games in lower decile homes. The substantial amount of prime time television viewed by children across all decile levels is significant, given the Labour Government's indications in their 1999 Broadcasting Policy document of a possible ban on advertising within children's television programmes. Parents' responses indicate that children are likely to be exposed to considerable amounts of programming and advertising that is not intended for them.

Parents' perceptions regarding concerns about getting children to eat 'good' foods versus being able to eat what they wanted were assessed in two questions. A statement regarding the perceived importance of the role of schools in discussing nutrition was also included. All statements were rated on a 1 – 5 scale by parents, where 1 = totally disagree 3 = neutral and 5 = totally agree. A t-test with a null hypothesis of 3 (neutral) was conducted and can be rejected at the 0.25 (2-tail) level of significance for all three statements. The results are shown in Table 4.

(Insert table 4 about here)

Parents from all schools appear to feel strongly that their children should eat 'good' foods but that schools have an important educational role in this. Parents appear totally against the suggestion that children should eat whatever they want. Unsolicited comments from a large number of parents indicate that there are substantial pressures on them and their children to maintain balanced diets. This clearly impacts on children in terms of their apparently knowing, at

one level about healthy eating, but then succumbing to external influences that are obvious major elements, for example:

> "They know about the important of different food groups, iron in diet etc but still refuses to eat meat, veggies. 7 year old often eats little lunch despite knowing the effects of no food, no energy, then little brain power".

> "My children do not understand the volume of fat and sugar contained in takeaways and convenience snack bars and potato chips. They see some children living off these and think they are deprived when given vegetables and meat at night, and fruit sandwiches in their lunch boxes. They think snack bars are food".

Advertising is seen as an influence, but it is not the only influence and positive efforts by parents and schools to instil healthy eating practices can be negated by peer pressure and even by nearby retail locations.

Parents were asked to indicate firstly the frequency with which they allowed the purchase of food and drinks that are perceived to have little or no nutritional value. All parents indicate that such purchases were an occasional rather than a regular event, as shown in Table 5. At the extreme ends, a very low percentage 'never' purchased or 'frequently' / 'always' bought these products.

(Insert table 5 about here)

They were then asked whether they had concerns regarding food and nutrition and children's attitudes towards a balanced diet and exercise and, if they did have concerns in these areas, to state what these concerns were. Parents do not indicate major concerns regarding their children's attitudes towards a balanced diet. Of those who do report concerns, Table 6 below indicates that the primary concerns reported are that children do not like some healthy foods and that kids are hard to keep on the right track. One respondent suggested that children are informed, but "not good at wise choices", while another conceded that her children were presented with bad role models, as both parents were overweight.

(Insert Table 6 about here)

Television Advertising

A list of opinions/statements regarding the influence of television advertising directed at children was drawn from the literature. As before, a t-test with a null hypothesis of 3 (neutral) was conducted and can be rejected at the 0.25 (2-tail) level of significance for many of the statements tested (Table 7), indicating that parents' views are unlikely to be neutral on these issues.

(Insert table 7 about here)

Agreement was highest with statements that television encourages children to want products they do not need, that there is too much sugar and fat in food products advertised in television programmes directed at children); and there

are too many advertisements in television programmes directed at children Only moderate levels of agreement were obtained for the statement that television advertising is an important cause of pestering though there tended to be agreement that advertising provided information on available products.

The food and nutrition issue was taken up here again in an attempt to gauge how parents perceived the specific impact of television advertising on this issue. Critics of television food advertising aimed at children focus on an imbalance between the types of foods advertised and recommendations in dietary guidelines (see, for example, Hammond et al., 1999). Table 7 however shows that the parents in this study were relatively neutral on issues such as whether advertised foods on television were an important cause of unhealthy eating habits. Nor did they strongly believe that there is too much sugar and fat and additives in food products advertised in television programmes directed at children. They also do not support the prospect of a ban on television advertising directed at children.

Parental Perceptions Regarding Relative Influence of Advertising Compared to Other Influences

Parents' perceptions of the degree of influence of advertising in children's programmes and other programmes were compared to their perceptions of the degree of influence of other children (school friends etc) and siblings. The same five-point scale was used as for previous blocks of questions. The findings indicate that advertising in children's programmes was not seen as

being an overwhelming influence on children in terms of their wanting products when compared to the influence of other children (see Table 8).

(Insert Table 8 about here)

Towards a Conclusion

It is quite inappropriate to assume that a strong positive correlation between television advertising and detrimental social outcomes does exist. As we have seen in this study:

1. Television viewing tends to be moderate, and there is increasing evidence of usage of other electronic media. However, the higher the socio-economic grouping, the lower the claimed amount of television viewing by primary age-children. While there is room for validity checks over the 'claimed amount of actual viewing, access to television and other media generally means time spent away from other pursuits more conducive to physical health.
2. Lower decile groups (by definition lower socio-economic groups) display heavier less-discerning television viewing patterns among primary-age children, coupled with a lack of censorship of necessity (i.e. both parents working). In these groups, food quality tends to be lower than in the higher decile group, and use of convenience foods tends to be higher too.

3. Parents from all groups expressed concern over what their children actually ate, and all saw a role for schools to provide educational and nutritional information as part of the curriculum.
4. As suspected, children are neither passive recipients of advertising, nor indeed of parental instruction. In other words, television programming (including product placement) advertising, and parents do have an influence, but these influences can be strengthened or negated by in-school foods, retail distribution, and by peer pressure to conform. Attitudes toward 'a balanced diet' varies significantly by school decile type and by social class.
5. Overall agreement by parents was nonetheless negatively skewed against advertising that created and sustained unhealthy eating habits, encouraged children to want unneeded products that contained too much fat and sugar, or additives, and there was agreement that advertising directed at children should be banned.

Thus, parents appear to have some concerns about the role of advertising in food and nutrition but do not support advertising bans and do not believe that advertising is a critical factor influencing children's eating habits. There is increasing recognition in the literature (see Ebbeling, Pawlak and Ludwig, 2002) that the causes of fatness and obesity are many and varied. All the causes cannot be laid neatly at the door of television programming or advertising. The proximity to 'neutral' in Table 7 by no means indicates overall support for a ban on advertising to children by parents. And the

findings in Table 8 indicated that advertising did have some influence when compared to other influences.

As we indicated earlier in the paper, it may well be time for policy makers to see this subject as of great importance. 80% of fat or obese children become fat or obese adults. In due course, fatness and obesity results in related health problems. Thus, there is a major societal cost, now in every nation state. It may know be time for major international comparative studies, funded by government, to be undertaken with policy makers, parents, and children to determine to a far more sophisticated extent the causes of fatness and obesity among children. Perhaps Donohue's (1975) study could be used as a starting point for informing one such study, but with a considerably improved methodology as a prerequisite for a modified replication?

Can advertising escape detailed attention in such a study? We suspect not. But, as we have seen here, it is not the only defendant in the dock. Other defendants include programme product placement, peer pressure, parental influence, and distribution and marketing of foods within and in proximity to schools.

Given the emotive nature of this subject area, we would welcome comments and collaboration by colleagues and practitioners.

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Appendix A: Code for Advertising to Children

The principal provisions of the Advertising Standards Authority's Code for Advertising to Children, in place since 1989, and revised in 2001 are:

1. Separation of Advertisements:

Advertisements must be clearly recognisable as such by children and separated from editorials or programmes. If there is any likelihood of advertisements being confused with editorial or programme content, they should be clearly labelled advertisement or identified in an equally clear manner.

2. Content:

i. Advertising should not clearly portray violence or aggression

ii. Advertising should not contain menacing or horrific elements likely to disturb children

iii. Advertisements should not encourage anti-social behaviour or depict children behaving in an anti-social manner. Vindictiveness, bullying and certain facial expressions and body movements can all be defined as anti-social.

iv. Children in advertisements should be reasonably well-mannered and well-behaved.

v. Children should not be urged in advertisements to ask their parents to buy particular products for them.

vi. No advertisement should suggest to a child that he / she will be in any way inferior through not owning the advertised product. ASA (2001: 33-34).

In addition, there are provisions prohibiting portrayal of unsafe situations and unsafe product use, together with provisions relating to the prevention of ambiguity, including competitions and premium offers and clear disclosure of any assembly, skill needed or additional items needed (e.g. batteries). This code is currently under review and an additional code for advertising food was introduced in 2001.

The principal provision relating to advertising of food products to children include (from Principle Three):

Advertisements directed at children should observe a high standard of social responsibility.

- ***(a)*** *Advertisements for treat foods directed at children should not actively encourage children to eat or drink them near bedtime, to eat or drink them frequently throughout the day or to replace main meals with them.*
- ***(b)*** *Advertisements for nutritional foods essential for a healthy balanced diet are encouraged to advocate the benefits of such foods, particularly when directed at children. A large and liberal but commonsense interpretation is allowed. However, benefits should not be exaggerated and should not imply that a single food should replace a balanced and varied diet.*

Table 1: Reported Rate Card Expenditure: 2001 and 2002 Calendar Years.

Advertiser	**Reported Rate Card Expenditure* (NZ$ Million)**	
	2001	2002
KFC	11.7	11.2
McDonalds	21.2	22.3
Pizza Hut	4.6	5.3
Burger King	5.5	5.3

Source: AC Nielsen (2003). * Does not incorporate negotiated volume discounts.

Table 2: Top Selling Ready-to-Eat Foods, 2001.

Description	Annual Purchases (NZ$ Million)	% Market Share
Combinations of ready to eat foods	226.2	20.8
Soups, hot drinks, milkshakes etc	93.3	8.6
Fish – fried, with or without chips	91.7	8.4
Pizza, quiche pieces	69.5	6.3
Chinese food	63.7	5.9
Fried chicken (with or without accompaniments)	62.6	5.6
Pies	59.7	5.5
Sandwiches (fresh)	58.1	5.3
Burgers	50.6	4.7
Biscuits, buns and cakes	48.9	4.5
Other ethnic food	45.5	4.2
Bread rolls (filled, hot etc.)	37.5	3.5
Fried chips, purchased separately	24.5	2.2
All other ready-to-eat items	154.9	14.3
TOTAL	1,086.3	100.0

Source: Statistics New Zealand / Restaurant Association (2002)

Table 3: Response Rates by Type and Decile Level of School

School Type and Decile Level	Response Rate per School
Decile 10 Private	28 %
Decile 10 Religious State	23 %
Decile 10 State	15 %
Decile 7 State	30 %
Decile 5 State	18 %
Decile 3 State	16 %
Decile 1 State	18 %
Decile 1 Religious State	27 %

Table 4: Level of Agreement Regarding Food/Nutrition Issues

(on a five point scale where 1 = totally disagree 3 = neutral and 5 = totally agree)

Statement	Decile 10 Private	Decile 10 Religious	Decile 10 State	Decile 7 State	Decile 5 State	Decile 3 State	Decile 1 State	Decile 1 Religious
a) I am concerned about getting my children to eat 'good' foods	Mean: 4.2 Std. Dev. 1.2	Mean: 4.0 Std. Dev. 1.1	Mean: 3.7 Std. Dev. 1.4	Mean: 3.9 Std. Dev. 1.1	Mean: 3.9. Std. Dev. 1.3	Mean: 3.8 Std. Dev. 1.4	Mean: 3.9 Std. Dev. 1.4	Mean: 4.0 Std. Dev. 1.3
b) Children should be allowed to eat what they want	Mean: 1.3 Std. Dev. 0.8	Mean: 1.3 Std. Dev. 0.8	Mean: 1.6 Std. Dev. 1.2	Mean: 1.5 Std. Dev. 0.9	Mean: 1.8 Std. Dev. 1.2	Mean: 1.6 Std. Dev. 1.0	Mean: 1.7 Std. Dev. 1.1	Mean: 1.9 Std. Dev. 1.2
c) It is important that schools discuss food and nutrition as part of children's education	Mean: 4.7 Std. Dev. 0.6	Mean: 4.7 Std. Dev. 0.7	Mean: 4.4 Std. Dev. 1.0	Mean: 4.5 Std. Dev. 0.7	Mean: 4.5 Std. Dev. 0.9	Mean: 4.4 Std. Dev. 1.0	Mean: 4.5 Std. Dev. 1.2	Mean: 4.5 Std. Dev. 1.1

Table 5: Mean frequency regarding buying food / drink of little nutritional value (on a five point scale where 1 = never 3 = perhaps half the time and 5 = always)

Statement	Decile 10 Private	Decile 10 Religious	Decile 10 State	Decile 7 State	Decile 5 State	Decile 3 State	Decile 1 State	Decile 1 Religious
When your children ask you to buy food or drink which you believe to have little nutritional value, how often do you give in?	Mean: 2.2 Std. Dev. 0.6	Mean: 2.3 Std. Dev. 0.6	Mean: 2.3 Std. Dev. 0.8	Mean: 2.2 Std. Dev. 0.7	Mean: 2.5 Std. Dev. 0.9	Mean: 2.3 Std. Dev. 0.6	Mean: 2.4 Std. Dev. 0.8	Mean: 2.5 Std. Dev. 1.0

Table 6: Concerns Regarding Children's Attitudes Toward A Balanced Diet

Concerns expressed	Decile 10 Private %	Decile 10 Religious %	Decile 10 State %	Decile 7 State %	Decile 5 State %	Decile 3 State %	Decile 1 State %	Decile 1 Religious %
Yes	23	24	23	28	20	27	45	41
No	77	76	75	72	80	73	55	59
Total	100	100	100	100	100	100	100	100
Specific concerns noted (% of respondents who indicated concerns above)								
Kids don't seem to like some healthy foods	26	27	11	47	17	5	18	11
Hard to keep kids on track – want junk food	48	37	67	35	34	32	37	27
Informed – but not good at wise choices	15	27	11	6	8	37	9	0
Parents bad role models - overweight	0	0	0	6	0	0	0	0
Kids don't understand potential health problems (e.g. obesity)	7	9	11	6	33	26	18	31
Children talking about becoming vegetarian	4	0	0	0	0	0	9	0
Girls seem preoccupied with body image	0	0	0	0	8	0	0	0
Need to promote healthy eating but healthy foods are costly	0	0	0	0	0	0	9	31
Total	100	100	100	100	100	100	100	100

Table 7: Opinions/Statements on Television Advertising Directed at Children
(on a five point scale where 1 = totally disagree and 5 = totally agree and 3 = neutral)

Statements	Advertised foods on television is an important cause of unhealthy eating habits		Television advertising encourages my children to want products they don't need		There is too much sugar and fat in food products advertised in television programmes directed at children		There are too many additives in food products advertised in television programmes directed at children		Television advertising directed at children should be banned	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Decile 10 Private	3.7*	1.1	3.9*	1.1	4.1*	1.0	4.1*	1.0	3.1	1.3
Decile 10 Religious	3.7*	1.1	4.4*	0.8	4.2*	0.9	4.2*	0.9	3.4*	1.2
Decile 10 State	3.6*	1.1	4.2*	0.8	4.0	0.9	4.0*	0.9	3.3	1.1
Decile 7 State	3.2	1.2	4.3*	1.0	3.9*	1.0	3.7*	1.0	3.3	1.1
Decile 5 State	3.5*	1.1	3.8*	1.1	3.6*	1.2	3.6*	1.1	3.3	1.2
Decile 3 State	3.4*	1.2	4.0*	1.2	3.8*	1.1	3.8*	1.1	3.4*	1.3
Decile 1 State	3.5*	1.4	3.9*	1.2	4.4*	0.8	4.2*	1.2	3.6*	1.4
Decile 1 Religious	3.5*	1.4	3.9*	1.2	3.8*	1.2	3.6*	1.1	3.5*	1.3
* denotes that the null hypothesis of 3 (neutral) can be rejected at the 0.025 (2-tail) level of significance										

Table 8: Relative Influence on Children in Wanting Products

(5 point scale where 5 -= influenced considerable and 1 = not influenced at all)

	Not influenced at all %	Influenced a little %	Influenced Moderately %	Influenced quite a lot %	Influenced Considerably %
Advertising in children's programmes					
Decile10 Private	2	21	31	29	17
Decile 10 Religious	4	18	18	42	18
Decile 10 State	0	21	30	29	20
Decile 7 State	6	27	21	21	25
Decile 5 State	6	25	23	32	14
Decile 3 State	3	14	25	37	21
Decile 1 State	4	31	19	23	25
Decile 1 Religious	8	21	21	36	13
Advertising in other (e.g. family and adult 'prime time') programmes					
Decile10 Private	9	31	38	18	4
Decile 10 Religious	10	30	29	25	6
Decile 10 State	5	43	23	25	4
Decile 7 State	14	29	35	20	2
Decile 5 State	16	43	23	14	4
Decile 3 State	3	23	41	23	9
Decile 1 State	27	23	23	12	15
Decile 1 Religious	18	30	26	21	5
Other Children (school friends etc.)					
Decile10 Private	0	7	18	41	34
Decile 10 Religious	0	12	18	37	33
Decile 10 State	0	16	20	42	22
Decile 7 State	8	6	21	40	25
Decile 5 State	6	16	27	38	13
Decile 3 State	6	14	23	35	22
Decile 1 State	4	12	16	32	36
Decile 1 Religious	17	24	22	12	25
Their siblings (brothers and sisters), cousins, whanau (Maori extended family) etc.					
Decile10 Private	4	12	25	36	23
Decile 10 Religious	2	12	24	34	28
Decile 10 State	5	18	21	33	23
Decile 7 State	14	10	23	38	15
Decile 5 State	13	21	21	30	15
Decile 3 State	9	18	24	29	20
Decile 1 State	4	16	20	28	32
Decile 1 Religious	13	28	22	25	12