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Author

Davis, Megan, Sullivan Mort, Gillian

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Childhood Obesity and Children's Food Values: Research for Social Marketing

Megan Davis, Australian National University
Gillian Sullivan Mort, Griffith University

Abstract

Childhood obesity is an issue of concern throughout the world due to its effects on the individual and implications on the economic and social fabric of society. This paper seeks to add to the literature on childhood obesity by researching the issue from a social marketing perspective. The research examines relationships between personal values driving food consumption, choice motives and weight status. To this end, the value structures of fifty-four pre-adolescent children are elicited using depth laddering interviews. These cognitive structures are analysed using means-end chains and hierarchical value maps and compared across weight category. Findings are then discussed in a social marketing context to address the obesity epidemic and future research directions are identified.

Introduction and Discussion of Obesity Epidemic

The World Health Organisation in 1998 described the obesity epidemic as the world's greatest unrecognised public health problem. At a very basic level, obesity is attributed to people eating too much food high in calories, and insufficient exercise (Wisotsky and Swencionis 2003). It is estimated that 315 million people throughout the world are clinically obese (James 2004). This highlights the importance of consumer research examining the cognitive processes which govern food consumption. Recent Australian research (Booth *et al.* 2006) indicates excess food consumption rather than lack of exercise is implicated in the rapidly rising obesity in children. While greater advertising regulation and parental discipline is called for, social marketing approaches directly targeting children also need to be considered. In this paper, we approach the issue from a consumer behaviour perspective, aiming to develop insights into the food behaviours of young people. We are not aware of any research investigating the values motivating children's food consumption choices and comparing overweight/obese and normal weight children.

Obesity can be measured using the body mass index (BMI) which is considered the "accepted measure of obesity in populations and in clinical practice" (James 2004, p.276). Within the medical literature, it is considered a robust, though indirect, measure of body fatness which provides reliable results (James 2004). BMI is calculated by dividing weight in kilograms by the height in metres squared and comparing the result to standard classifications. These categories are used to develop plans for clinical management (James 2004) and thus serve as a means of segmenting the population to determine the target audience of clinical management strategies. Pre-adolescence and adolescence are periods when children take more control of their food consumption and increasingly make their own food choices. Neumark-Sztainer *et al.* (2002, p.844) posit that "Dietary patterns developed during adolescence may contribute to obesity and eating disorders and may increase the risk for several important chronic diseases later in life". This is confirmed with a longitudinal study conducted in the US, which found that the probability of children

with high BMI still being overweight or obese at thirty-five years of age rises markedly throughout childhood (James 2004).

Food consumption reports typically discuss the types of foods being consumed by children, and the percentage of children eating certain foods each day or week. There is a need to move beyond food consumption reports to explore the underlying motivations for food consumption and identify any relationships between food consumption, food motivations, personal values, and obesity. The personal values which drive consumer purchases are one important motivator in this context. The behaviour change necessary to begin curbing obesity trends requires studies to better understand the behaviour of consumers. Hastings (2000, p.37-38), for example, discusses the need for changes in long-term thinking: “We have to shift a culture that defines chocolate as a treat and vegetables as tedious, and exercise as hard work and indolence as pleasure.” This statement enhances the need to better understand the values which are currently driving consumer behaviours and how social marketing can be used to encourage people to associate the consumption of foods with a different range of consequences and values. Inherent in the application of social marketing to obesity is the need for behaviour change. McDivitt (2003, p.14) asserts that “marketers need to understand and match or support their audience’s existing motives, needs, aspirations and values, and think about where the ideal behaviour fits into this”. This enforces the need for research, and in particular for qualitative research based on the means-end chain (MEC) theoretical approach (Gutman 1982), to probe the motives and values which underlie child food consumption. Specifically, a better understanding of the motives and personal values driving food consumption behaviour will facilitate improved understanding of behaviour as well as contribute to more refined social marketing programs directed at the childhood obesity issue.

In this research, we seek to answer the questions, *How are the personal values and food choice motives of pre-adolescents related to their weight status? What are the implications for social marketing approaches to obesity?* This will be examined using the MEC theoretical framework and accompanying method of laddering interviews which assesses the relationship between attributes and consequences as well as consequences and values. Analysis results in representation of cognitive structures using hierarchical value maps (HVMs).

Method

Depth laddering interviews

Personal in-depth interviews following the laddering technique (Gutman 1982) were used to explore the MEC relationship. Prior research (Dibley and Baker, 2001) indicated that this technique could appropriately be used with young respondents. The interviews sought to move interviewees’ responses up the ladder of abstraction from concrete attributes of food to benefits (consequences) and then to values - by eliciting the food attributes, consequences of these attributes and the personal values linked to the consequences of consumption. It has been found that the predictive validity of data derived from interviews using the laddering technique is higher the more the instrument fulfils criteria developed by Grunert and Grunert (1995). Thus, interviewees were allowed to engage in natural speech and encouraged, through probing, to openly describe answers to each question. To

ensure the integrity of the process if an attribute, consequence or value was poorly explained, the interviewee was asked to describe it in another way rather than to confirm or deny a cognitive structure proposed by the interviewer.

In applying the laddering technique, all interviewees were asked a series of base questions which were probed to move the respondent up the ladder of abstraction. The questions were developed to allow for a range of foods, eating environments, family influences and the use of nutritional information to be discussed. Probing questions such as “What is it that you like about that?” or “What’s good about that?” recommended by Dibley and Baker (2001) for pre-adolescent aged respondents were used. In order to not limit the product classes discussed, the free elicitation technique was used (Grunert, Grunert and Sorensen 1995). This allowed for a better understanding of the values of pre-adolescents with respect to their overall food consumption, and a broader examination of the cognitive structure of their food choices. Further, the ‘soft’ laddering technique - which in contrast to the ‘hard laddering’ technique allows for a more natural flow of speech (Grunert and Grunert 1995) – was used, consistent with recommendations by Dibley and Baker (2001) for younger respondents.

Sample, data collection and approach to analysis

Following ethics approval, interviews lasting approximately twenty minutes each were conducted with fifty-four eleven and twelve year old students of public primary school in a regional area of eastern Australia. Students were asked to volunteer for a study of attitudes to food and parental consent was obtained for their involvement. A large number of interviews were conducted as an ethical procedure to prevent the appearance that overweight children were being targeted for this study. A relaxed interview environment was created and care was taken to avoid approving or condemning particular behaviours to promote accurate and truthful responses. This aided the development of rapport, which improved the ability of the interviewer to “get below the respondent’s surface reasons and rationalisations to discover the more fundamental reasons underlying the respondent’s perceptions and behaviour” (Reynolds and Gutman 1988, p.14). At the conclusion of each interview, height and weight were measured and recorded by the interviewer. This was then converted into BMI to categorise interviewees by weight status. From the total number of interviews, the transcripts of interviews with fifteen students classified as overweight/obese using standard BMI tables were analysed and compared with an equivalent number of randomly selected transcripts of normal weight students. Following the principle of theoretical saturation (Glaser 2004), this sample size was sufficient to allow HVMs to be constructed as comparative cognitive structures (Dibley and Baker 2001). In analysing the results quotes from the interviews were incorporated to afford the reader the opportunity to witness primary data, rather than simply reporting an analysis which the researchers may have interpreted and reported incorrectly (Fossey *et al.* 2002).

Results and Discussion

HVMs illustrating the combined cognitive structure of the overweight/obese pre-adolescents and the normal weight pre-adolescents were developed as is customary in this type of research. However, space limitations prevent their presentation in this paper. The cognitive structures of the overweight/obese and normal weight groups will be discussed

by comparing and contrasting the attributes, consequences and values of the two groups.

Attributes. Many similarities between the attributes elicited in the laddering interviews from the overweight/obese group and those elicited from the normal weight group were identified. Table 1 presents the attributes elicited and shows that the normal weight category of interviewees only discussed three attributes that were not discussed by the overweight/obese category and vice-versa. These results indicate that regardless of weight status, pre-adolescents seek very similar attributes in the products they consume.

Attributes elicited by both groups			
Taste	Texture	Juicy	Vitamins
Variety	Size	Sugar content	Quick
Healthy	Flavour	Fat content	Nutrition info
Shape	Price	Long time to eat	Chewy
Additional attributes elicited by Overweight/Obese category		Additional attributes elicited by Normal weight category	
Value for money		Fills you up	
Energy		Familiarity	
Quality		Fibre	

Table 1 Summary of attributes elicited in interviews

However, the consequences and values derived from these attributes indicate different cognitive structures between the two groups. The attribute ‘healthy’ has eleven ladders from it for the normal weight group, compared to only two ladders for the overweight/obese group. This indicates a greater focus on health as a food attribute for the normal weight group compared to the overweight/obese group and that the normal weight group could more readily cognitively connect ‘healthy’ to consequences and higher order values. Both groups also identified health at the consequence level – ‘stay healthy’ (normal weight group) and ‘healthy choices’ (overweight/obese group). For the normal weight group, this led to other consequences including ‘feel better about self’, ‘easier to do sport’, ‘live longer’, ‘healthy body’ and to the values ‘enjoyment’ and ‘self-fulfilment’. Conversely, for the overweight/obese group, the ‘healthy choices’ consequence laddered to ‘live longer’, ‘not get sick’, ‘energy’ and ‘get through the day’. In both cases, the consequence related to health laddered from the attribute ‘nutrition contents’.

Consequences. In analysing the HVMs, it is important to consider the consequences upon which the values discussed above are derived. The normal weight sample has a wider range of consequences, which possibly indicates a more complex involvement with the consequences of food consumption. The more prominent consequences are related to functional aspects of food consumption, for example, making it easier to do sport. Comparatively, the overweight/obese sample mentioned consequences predominantly related to mood aspects of food consumption, such as making them a nice person, and getting through the day. Another important consequence identified in the normal weight sample is that of physical appearance (“don’t want to be big”, “look bad”). These types of consequences were not identified in the overweight/obese sample.

Values. A comparison of the highest level of abstraction illustrated in the two HVMs

indicates similarities and differences in the values of the two groups. The values identified for the overweight/obese group are: self esteem, happiness, fun, and enjoyment. The normal weight group identified three of these values (self esteem, fun and enjoyment) as well as self-fulfilment and self respect. Of interest is the ladder which leads to the 'enjoyment' value. For the overweight/obese group, this value results from consequences relating to the mood-type aspects of food (for example 'not boring'), whereas for the normal weight group, enjoyment is derived from the functional consequences of food consumption such as 'easier to do sport' and 'healthy body'. This indicates a greater focus by the normal weight group as to enjoyment derived from food serving a function for the body, as opposed to enjoyment resulting from the food *per se*.

Implications of Research

The results provide evidence of the MECs and values underlying food consumption found in previous studies. This research shows that normal weight pre-adolescents put much more emphasis on the health attributes of food than do the overweight and obese pre-adolescents. Thus there is need for basic health promotion and information targeted at the overweight and obese group. approaches their positive concern for health indicates that they would also benefits from social marketing approaches that can build behaviour change strategies on this positive foundation as noted by Andreasen (2003) While this group needs basic health promotion, the positive relationship between BMI and concern with health and well being that was identified in this research indicates that pre-adolescents with BMIs in the overweight and obese zones are still concerned with health and wellbeing, and therefore have the motivation to respond to social marketing intervention strategies based around this approach. Following the long-term compared to short-term difference identified in the HVMs, there is also an opportunity for social marketers to focus attention towards changing the perceptions that overweight and obese pre-adolescents have of food consumption by shifting their orientation from the immediate mood enhancing aspects of food consumption to longer term positive 'healthy body' effects of food consumption. This opportunity is perhaps the most significant new insight delivered by this research. Overall the research indicates that not only health promotion and information is needed to combat childhood obesity but also social marketing approaches appear to be indicated.

Limitations and Future Research

This research was based on a small sample and used depth interviews to elicit MECs to map HVMs. Larger randomised samples could be collected using MEC techniques adapted for pencil and paper tests (Sullivan Mort and Rose, 2004) to validate the results of this qualitative study on a national scale. The categorical division as 'overweight/obese' and 'normal weight' based on the BMI of the sample is a limitation of this study. Greater insights could be gained in future research by increasing the sample size with the aim of creating a variable of interval nature which would divide BMI into multiple categories. In addition to issues raised above, further research examining the role of interpersonal factors will add to the contribution made by the current research. Additionally, longitudinal studies could be used to observe trends over a period of time.

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