

Encouraging Self-Regulation of Children's Food Consumption

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Abstract

The prevalence of childhood obesity and the associated negative health implications highlight the urgent need for interventions to assist families in preventing and treating the condition. This study focused on children's awareness of the need to regulate their own food intakes. In a sample of over 500 low and medium socioeconomic children, around two-thirds believed they should always finish what is on their plate and that they should not be permitted to determine the quantity of food they consume. They were thus largely unaware of the need to regulate their own appetites, which is an important element of weight control. The reasons provided by the children for their beliefs indicate that both children and parents need to be better informed on this issue. The results have implications for interventions that aim to encourage parents to adopt authoritative parenting styles in their feeding practices.

Introduction

In Western Australia, more than a quarter of children are overweight or obese (Glasson, Read, Hands, Parker, Brinkman, and Miller 2004). This represents a rapid and substantial increase over the last 20 years as only around one in ten children was overweight or obese in 1985 (Hands, Parker, Glasson, Brinkman, and Read, 2004). A range of adverse health conditions is associated with excessive weight in children, including type 2 diabetes, sleep apnoea, orthopaedic complications, and weight-related depression (Dietz 1998; World Health Organisation 2000). The prevalence of childhood obesity and the associated negative health implications highlight the urgent need for interventions to assist families in preventing and treating the condition (Baur 2002; Crawford and Ball 2002). Along with physical activity programs, social marketing campaigns designed to address excess food consumption can play an important role as obesity is the result of an excess of energy intake relative to energy expended (Crawford and Ball 2002).

In line with a tendency to focus on downstream causes and solutions to social problems (Donovan and Henley 2003; Kim and Willis 2007), parenting styles have received increased attention in recent years as researchers attempt to identify means of changing family eating environments to become less obesogenic. Three distinct parenting styles have been identified and examined in terms of their implications for children's weight outcomes: authoritarian, authoritative, and permissive/indulgent (Arredondo, Elder, Ayala, Campbell Baquero, and Duerksen 2006; Kremers, Brug, De Vries, and Engels 2003; Nicklas, Baranowski, Baranowski, Cullen, Rittenberry, and Olvera 2001; Van der Horst, Kremers, Ferreira, Singh, Oenema, and Brug 2007). Controlling or authoritarian behaviours by parents have been found to result in reduced preference for nutritious foods among children (Gribble, Falciiglia, David, and Couch 2003). Pressuring children to eat has been found to actually decrease preference for the healthy foods and increase preference for the treat (Fisher, Mitchell, Smicklas-Wright, and Birch 2002). Similarly, withholding "bad" foods as a form of punishment can serve to make these foods especially desirable to children (Birch and Fisher 1998). Another adverse consequence is that parents' attempts to control children's food intake, such as by requiring them to finish all food on

their plates, can disrupt children's natural appetite mechanisms and prevent them from being able to regulate their intakes in the future (Birch and Fisher 1998; Golan and Weizman 2001). At the other end of the spectrum, children of parents adopting a permissive parenting style that allows children great control over their food intake have been found to exhibit lower intakes of all nutrients except fat (Nicklas et al. 2001).

There is a general consensus in the children's nutrition literature that parents should take a more authoritative stance and share with their feeding responsibilities with children (American Dietetic Association (ADA) 2004; Golan and Weizman 2001; Nicklas et al. 2001; Fisher et al. 2002). Ideally, parents should offer a range of healthy foods and set the meal schedule while children should decide if and how much they want to eat (ADA 2004; Golan and Weizman 2001). This can reduce conflict and enables children to maintain their own appetite mechanisms (Sherry et al. 2004). This strategy, however, requires ensuring children are knowledgeable about healthy foods and the reasons for consuming them (Sherry et al. 2004). It also relies on children having confidence in their ability and right to determine their own level of food intake. This paper investigated the latter issue by asking children about their beliefs relating to whether they should be able to determine the quantity of food they consume. Studies examining children's self-regulation of food have typically focused on parents' beliefs and behaviours and the implications for children's diets. Some work has examined adolescents' eating beliefs but there is a lack of research focusing on young children. Understanding children's beliefs is important in developing effective parenting style interventions due to the need to anticipate children's likely responses to parents' attempts to adopt a more authoritative feeding style. The present study thus provides insight into the knowledge barriers that need to be addressed among children when attempting to encourage authoritative feeding practices among parents.

Method

A questionnaire relating to food consumption beliefs and behaviours was administered to children in Years 3 to 5 at four Western Australian primary schools. Children in this age range (seven to 10 years) were chosen as it has been advised that health promotion interventions relating to eating behaviours should be administered prior to the 6th grade to reach children before the stabilisation of taste preferences (ADA 2004). It was not possible to survey children younger than seven years of age because of their limited reading and writing abilities. The four schools were selected according to their socioeconomic status, with two schools classified as low and two schools classified as medium socioeconomic status (SES) according to the Australian Bureau of Statistics' *Socio-Economic Indexes for Areas*. As childhood obesity is concentrated in lower SES areas (O'Dea 2003; Wake, Hardy, Canterford, Sawyer, and Carlin 2007), this study focused on schools in areas of relative socio-economic disadvantage.

The questionnaire was double spaced with large font to ensure readability. The items were read aloud so the children had the opportunity to hear as well as read them. Questions included basic demographics, fruit and vegetable preferences and consumption, physical activity habits, television viewing behaviours and attitudes, and eating practices and attitudes. Of specific relevance to this paper were four items relating to children's self-regulation of their food intake. One question asked "Do you think children should always finish what's on their plate?" (response options yes and no). The following question was "Why?". Similarly, another question

asked “Do you think children should decide how much food they eat?”, followed by “Why?”. These particular questions were posed as they focus on feeding control issues that have been emphasised in the nutrition literature (Birch and Fisher 1998; Fisher et al. 2002; Golan and Weizman 2001; Nicklas et al. 2001). The children’s responses to these questions are detailed below.

Results

An opt-out recruitment method was approved by the University of Western Australia’s Ethics Committee, which resulted in a sample size of 524 and a 96% response rate. In total, 11% of respondents reported that they were of Aboriginal or Torres Strait Islander descent. Boys accounted for 54% of the sample. The age distribution was as follows: 8% seven years, 38% eight years, 37% nine years, and 17% ten years. While responses to the open-ended questions were typically brief due to the limited writing skills of children of this age, the large sample size and a strong consistency in responses permitted meaningful analysis of the data. Responses to the open-ended questions were included in the Excel spreadsheet containing the statistical data and were analysed by grouping like responses according to the explanations provided.

Should children always finish what is on their plate?

A majority of respondents (69%) reported that children should finish all food on their plates, and this response was evenly distributed across boys and girls. There was also no difference according to SES or Indigenous status, but age was influential with younger children being more likely to state “Yes” than older children [$F = 3.416$, $df = 3$, $p = 0.017$]. The desirability of a clean plate appeared to be internalised for many children as they provided consistent reasons for this point of view in their short-answer responses. These reasons fell into four main categories: health, fear of punishment, moral concerns, and trust in their parents’ judgment.

Health - Boys frequently mentioned the need to eat all that is given to them to enable them to grow “big and strong”. Girls also sometimes mentioned becoming strong, but they were more likely to use the generic term “healthy” than to nominate any specific physical outcomes. Any uneaten food was viewed as wasted nutrition that could have been used to advantage. Some children noted that failure to eat all food provided at mealtimes could result in hunger later and therefore a tendency to snack between meals. Vegetables were nominated as foods that should be eaten as a priority because of their health-giving properties:

If you get filled up you won’t need to eat in the middle of the night (boy).

If they don’t eat their veggies they won’t get healthy (girl).

Fear - Most of the fear expressed by respondents related to getting into trouble from their parents. One child mentioned being smacked but most who mentioned punishment referred to their parents becoming angry with them and/or not permitting them to have other, more strongly desired, foods:

Your mum could get cross because she made it (boy).

If you don’t eat it you don’t get dessert (girl)

Three of the children expressed the extreme belief that if they did not eat all the food served to them they would risk dying, presumably from malnutrition.

Moral concerns - These concerns were most frequently expressed by boys and related mainly to showing respect to the person who had prepared the meal by consuming all food served:

Somebody did something nice for you (boy).

Your mum spent a lot of time cooking (boy).

Some children mentioned the cost of the food and therefore that to reject the food would be to waste money. A small number mentioned starving people elsewhere as a motivation to appreciate their own food, and one child commented that it is sinful to waste food.

Trust in parents - Some children, mainly girls, expressed confidence in the role of parents, especially mothers, in determining the type and quantity of food that children should eat:

What you're given is your parents' responsibility (girl)

Their parents will give them healthy food (girl)

Among the third of respondents who stated a belief that children should not have to eat all food served to them, the majority of reasons given related to becoming too full, feeling sick, and vomiting:

If you force them they'll vomit (girl).

You get full and then get sick (boy)

Other frequent responses referred to a lack of appetite and the food not being to the child's taste. Occasionally the unhealthy nature of the meal served was mentioned as cause for not eating everything on the plate:

It's hard to eat (boy).

Sometimes your mum gives you mush (girl).

Some dinner isn't healthy (boy).

In line with the trust in parents noted above, only rarely did a child mention being served too-large portions as being an appropriate reason for ceasing eating before cleaning the plate.

Should children decide how much food they eat?

This question was phrased more generally to apply to all food consumed, not just that served at mealtimes. It is thus likely that the children also considered snack foods when responding. Once again, a majority (65%) of respondents reported that children should not be responsible for determining the quantity of food they consume. No significant differences in responses were found by gender, SES, Indigenous status, or age. The qualitative data yielded similar justifications as found in the previous question – eating too much and becoming sick, wasting food, and trusting their parents to decide for them. However, a notable difference in responses to this question was a stronger focus on undesirable body weight. The word “fat” was mentioned over 100 times in response to this question compared to fewer than five for the previous question.

Concerns about becoming overweight appeared to be related to the assumption that where children can choose how much food they eat they will eat too much and gravitate towards foods that are higher in fat content:

We might eat too much food (girl).

They might get fat from the junk they will eat (girl).

They might keep on eating junk (boy).

Occasional respondents also alluded to the possibility of children becoming too thin if able to control their own food intake:

They could become anorexic or obese (girl)

Amongst those stating “No” to this question, many did not offer an explanation for their answer. Those who did provide a qualitative response referred to children sometimes having a lack of appetite and a small number mentioned that parents might allocate too much food compared to the child’s ability to eat:

They might not want that much (boy).

Our parents might put too much food on our plates (girl).

Implications

The results of this study indicate that social marketing campaigns designed to encourage parents to adopt authoritative parenting styles in their feeding practices will need to address substantial knowledge deficits in children relating to this issue. In particular, children need to be informed of the importance of monitoring their own satiety signals and adjusting their food intake accordingly. The degree of support for the question relating to finishing all food served and the rejection by a majority of respondents of the statement that children should determine their food intake suggest that this information would contradict existing knowledge and therefore require persistent and persuasive communication to change entrenched attitudes.

The strong consistencies in the children’s explanations for why they should not control their own food intake are likely to reflect the information provided to them at home and in other food consumption contexts. This suggests that they are repeating what they have been told by their parents and therefore that their parents also have substantial knowledge deficits in this regard. Efforts to address this issue should therefore focus on both children and parents as information recipients. This recommendation is in line with an increasing emphasis in the nutrition literature on the need to develop all-of-family interventions to combat child obesity (Boutelle, Birnbaum, Lytle, Murray, and Story 2003; Harrington, Franklin, Davies, Shewchuk, and Binns 2005).

One favourable finding is that the children appeared to have faith in their parents’ knowledge relating to nutrition and health. A social marketing campaign could effectively capitalise on young children’s deference to their parents if it informed parents of the need for children to self-regulate their appetites while also reinforcing parents’ important roles as food providers (Birch and Fisher 1998), food consumption models (Fisher et al. 2002), and controllers of the eating environment (Golan and Weizman 2001). Simultaneously educating children about the need to monitor their satiety signals when eating, such as through school nutrition programs, would seem to be also warranted given the children’s low level of knowledge in relation to the importance of appetite regulation.

To conclude, food consumption is an important element of the childhood obesity issue. Social marketing has the potential to play an important role in addressing the problems associated with excessive consumption by encouraging self-regulation of food consumption among children and encouraging parents to adopt authoritative parenting styles in their feeding practices.

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