

Influence of parental behaviour in the development of preschoolers feeding habits – a review

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Abstract

This article is a review of current data of parental influences on the feeding habits of preschoolers (2-6 years of age). This begins a time when eating and physical activity habits are being established.¹ Over-control, restriction, pressure to eat and a promise of rewards have negative effects on children's food acceptance.² When parents believed their children could self regulate, they use less restrictive feeding practices because restriction can compromise self-regulatory abilities.³ As role models, parents need to assess their own eating habits so their children can learn to make healthy food choices.⁴ The eating habits children pick up, will help them maintain a healthy lifestyle when they are adults.⁵ During early and middle childhood, family environments are the key contents for the development of food preferences, eating styles and the development of activity preferences and patterns that shape children's developing weight status.⁶ Whether genetic predispositions are manifested in food preferences depends on the eating environment, including food availability and child feeding practices of the adults.⁷ Food aversions can be learnt in one trial if consumption is followed by discomfort. Children are more likely to eat in emotionally positive atmospheres.⁸ Parenting practices have been influenced by socio-cultural shifts including a rise in single parenthood, greater family instability, loss of extended family support and increased reliance on child care arrangement (Birch and Davison 2001).⁹ Maternal education had a marked effect on the relationship between parenting behaviour and child development.¹⁰ Studies have shown that childhood experiences with food plays an important role in eating habits later in life.¹¹ Providing a safe and nurturing atmosphere and letting children be involved in purchasing and preparing foods promote healthy eating habits.¹² In conclusion, positive parental role model may be a better method for improving a child's diet than attempts at dietary control.¹³

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INTRODUCTION

Understanding children's eating attitudes and behavior is important in terms of children's health. Research has also focused on the role of parents and Wardle (Wardle, 1995)

contended that: Parental attitudes must certainly affect their children indirectly through the foods purchased for and served in the household...influencing the children's exposure and their habits and preferences. Oliver *et al.* (Oliver *et al.*, 1992) reported a correlation between mothers' and children's food intakes for most nutrients in preschool children, and suggested targeting parents to try to improve children's diets. Research indicates that children may not only model their parent's food intake but also their attitudes to food. Some research has explored the impact of controlling food intake by rewarding the consumption of 'healthy food' as in 'if you eat your vegetables I will be pleased with you'. The relationship between food and rewards, however, appears to be more complicated than this. Birch reviewed the evidence for the impact of imposing any form of parental

control over food intake and concluded that: child feeding strategies that restrict children's access to snack foods actually make the restricted foods more attractive. [(Birch, 1999), p.11]¹⁴ in this review, we will describe about the parental influence in the development of food acceptance, including food preferences, as well as the regulation of food intake in young children. During the first five years of life children learn when to eat, what to eat and how much to eat.¹⁵ As the 'gate-keepers' of the child's eating environments, parents are important agents of dietary behavior development. This is particularly true for preschool children, as a large proportion of their food is consumed within the home environment.¹⁶ Perhaps if parents used restriction covertly to structure their children's food environment rather than to overtly restrict a food, it might be a positive means to help children consume a nutritious diet.¹⁷ A final, important aspect to enacting healthy habits is a positive family model. Sacco *et al.* describe the five feeding styles typically chosen by parents feeding children as follows – **Responsive**, in which parents are responsive to the child's hunger cues but control the quality of their child's diet by providing an assortment of high-quality foods; **Pressuring**, in which parents are not responsive, and are intent on controlling the amount of food the child eats by increasing the amount consumed; **Restrictive**, in which parents are not responsive and are intent on controlling the amount and quality of food by decreasing the amount consumed and/or not allowing the child to eat lower quality foods; **Indulgent**, in which parents are responsive, but do not control the quality or quantity of food consumed; and **'Laissez-Faire'**, in which parents are not responsive and do not control the quantity or quality of food consumed. Restrictive Parental feeding styles, related to child feeding have recently received substantial attention for the potential role they may play in the raising epidemic of childhood obesity (Hedley *et al.*, 2004; Strauss and Pollack, 2001 pg.132).¹⁸

PARENTAL INFLUENCES ON CHILDREN'S NUTRITION

Investigations of parental influences in children's nutrition are few and far between, despite the widespread assumption that parents influence both their children's eating behaviour and their attitudes towards food.¹⁹ There is substantial evidence of bidirectional interactions between parenting and the diet and weight status of children. The literature recognized 2 different but correlated parental conducts as follows: **parenting style and parenting practice**. The style described as **authoritative, authoritarian, indulgent, or neglectful** is the result of attitudes and behaviours of interplay with the child. The practice is a strategy of control used by parents

such as a pressure to eat by promoting healthy food, usually fruit and vegetables, restriction by limiting access to sweets and fatty snacks, and the use of food as a reward. Despite the good intentions of parents, these practices are associated with negative outcomes; restriction is strongly correlated with children's disinherited eating behaviours. The presence of at least one parent during the evening meal is associated with a lower risk of poor consumption of fruit, vegetables, and dairy foods.²

Maternal Influences

Mothers are of particular interest on children's eating behaviour, as they have been shown to spend significantly more time than fathers in direct interactions with their children across several familial situations, including mealtimes. Mothers who exert a greater degree of control over their child's food intake had children who demonstrated less ability to regulate energy intake. Birch and colleagues affirm that mothers reported using more restrictive feeding practices when they perceived daughters as overweight and reported using more pressure in child feeding when they perceived daughters as underweight.¹³

Parental Control

A recent paper describes two primary aspects of control: **restriction**, which involves restricting children's access to junk foods and restricting the total amount of food, and **pressure**, which involves pressuring children to eat healthy foods and pressuring to eat more in general. Parents may use a combination of these methods to obtain a desired result; for example, pressuring a child to eat healthy foods by using bribes or rewards consisting of sugary snacks that are otherwise restricted.¹³ Parent restriction has short term and long term effect on children's intake. It enhances preference, increases attention and intake at first, then this curb increases intake, increases eating in the absence of hunger, don't produce ability to self-regulate diet but causes negative self evaluation, greater weight gain from 5 to 11 years. Others researches have explored the impact of controlling food intake by rewarding the consumption of 'healthy food'. This was shown to increase food preference; but as concluded by Birch: "although these practices can induce children to eat more vegetables in the short run, evidence from our research suggests that in the long run parental control attempts may have negative effects on the quality of children's diets by reducing their preferences for those foods."¹³

Family Environment

Parents play a pivotal role in the development of their child's food preferences and energy intake, with research indicating that certain child feeding practices, such as exerting excessive control over what and how much

children eat, may contribute to childhood overweight (Table 1).

The family environment influence

1. The children intake by eating styles, food preferences, child-feeding practices, availability of energy dense foods in the home, restaurant eating v. meals prepared at home, family meals v. eating away from the table.

Table 1: Family factors that influence bidirectionally parents and child

Parent characteristics	Child characteristics
Parents' weight status	Dietary intakes
Perceived responsibility for child feeding	Eating style
Parent's dietary intake	Weight
Food preferences	Physical activity
Feeding practice	
Portion size	
Food available at home	
Food accessibility	
Eating locations ambient, temperatures and lighting	
Time of consumption, ambient sounds	
Temperature and smell of foods	
Family meals v. eating away from table	
Family income	
Physical activity	

From Davison and Bearch 2001 Obesity Reviews

2. The children energy expenditure by physical activity patterns, metabolic rate, enjoyment of physical activity, encouraging children to be active.

The parents can influence the development of children eating behaviour through a set of regulatory acts aimed at helping children adapt to their environments:

- . Sustenance: providing food, protection from environment threats
- . Stimulation
- . Support
- . Structure: organizing eating environments
- . Surveillance: monitoring and control over eating¹³

PHYSICAL FACTORS OF THE HOME ENVIRONMENT

The following item in the home environment has a strong influence on food preferences and dietary patterns in children.

a) The Type of Food Available

The food preferences and dietary patterns of children and young people are ultimately shaped

by the foods that are available and accessible to them in the home (Birch and Fisher 1998; Savage *et al* 2007). The availability of healthy foods, such as vegetables, fruit, breakfast foods and low-fat milk products, is strongly linked to the development of healthy eating patterns in children (Birch and Fisher 1998; Van der Horst *et al* 2007; Pearson *et al* 2009a, 2009b). Foods available in the home reflect a combination of factors, such as parental food preferences, nutrition knowledge and skills, time available for purchasing and preparing food.

b) The Size of Portions

Although young children usually have an innate ability to self-regulate their energy intake (Savage *et al* 2007; Scaglioni *et al* 2008), the extent to which they use and maintain this ability is determined by environmental conditions. Offering large food portions can promote greater intake by children as young as two years of age (Savage *et al* 2007). Portion size can be defined as the amount of food served at a single eating occasion. Portion sizes should be age-appropriate (Benton 2004).¹⁵

c) The Physical Eating Environment

An appropriate eating environment is a place where the family can sit and eat together, in a place with a comfortable temperature, lighting and few distractions such as television and toys. Research has shown frequent watching of television during meals is associated with increased consumption of unhealthy foods and decreased consumption of healthier foods (Benton 2004).

SOCIO-CULTURAL FACTORS OF THE HOME ENVIRONMENT

This includes –

a) Parental Modelling

Parental modelling influences food consumption in children and young people (McClain *et al* 2009) in that positive modelling of a healthy diet is associated with better diet patterns.

b) Eating Together

It provides an opportunity for parents to role-model and support healthy eating. Family meals are associated with improved dietary intake – for example, a higher intake of vegetables and fruit (Pearson *et al* 2009b).

c) Eating Routine

A regular household eating routine provides a structure that could help regulate appetite and coordinate attempts to eat together as a family.

d) Parenting Style

Research has linked pressure to eat a certain food with a decreased preference or liking for that food (Savage *et al* 2007; Scaglioni *et al* 2008). Pressure to eat more food or 'clear your plate' may prevent children from learning to regulate their own intake (Benton 2004). It is important to let children identify their own physical feelings of hunger and fullness and to allow them to use those signals as a guide for if and how much to eat during meal and snack times (Satter 2011). Parents exhibit guidance and control by providing children with a range of foods to choose from that is, for the most part, of low to moderate energy density and of high nutrient density. A 'healthy attitude' could be described as recognising food and eating as one of life's many pleasures (Satter 2011).

e) Involving Children and Young People in Preparing Food

Involving younger family members in the preparation of food has been linked to improvement in the nutritional quality of their dietary intake (Larson *et al* 2006). Research has shown that nearly all children and young people who are involved in growing vegetables, also eat them (Clinical Trials Research Unit and Synovate 2010a).¹⁵

Parental Feeding Practices: Parents as Providers, Models, and Regulators

Parents actively make food choices for the family, serve as models for dietary choices and patterns, and use feeding practices to reinforce the development of eating patterns and behaviours that they deem appropriate. Children also learn about food by observing the eating behaviours modelled by others. For example, research reveals that children's intake of fruits, vegetables, and milk increased after observing adults consuming the foods. Thus, positive social modelling is an effective practice for promoting healthier diets in children. In combination with what is known about the effect of parental modelling on children's eating behaviours there is consistent evidence that the responsive "do as I do" approach has a stronger positive effect on children's consumption patterns than the unresponsive "do as I say" approach to parenting.²⁰

Parental Attitudes and Feelings towards Mealtimes

For some parents, providing their child with nourishment equates to a strong sense of nurturing and competence as a parent (Keren, Feldman and Tayo 2001). When problem eating and mealtime behaviours occur, such as food refusal, refusal to come to the table to sit or to try new foods, parents may believe that they are not nurturing their child adequately. Feeney (1986) suggests that nourishment is but one component of nurturing. Parents who place too great an emphasis on feeding may become overly concerned with the child's behaviour during meals (for example, taking excessive time to eat meals, refusing to swallow food, whining and tantruming) the quality, quantity and variety of foods consumed by the child. Children have the ability to self-regulate their energy intake by adjusting their food intake in response to the energy content of foods they consume (Birch and Deysher 1986). Parents who have more controlling approaches to child feeding may over ride the development of the child's self control of eating (Johnson and Birch 1994).⁹

Food Preferences

Food preferences develop from genetically determined predispositions to like sweet and salty flavours and to dislike bitter and sour tastes. Young children are also predisposed to be neophobic about food. Particularly towards the second year of life, coinciding with an important period of transition to an adult diet. Neophobia (literally 'fear of the new') manifests itself as a rejection of unfamiliar foods in favour of familiar ones.

There are mechanisms of taste development and positively associated with:

Mere exposure: exposure based approach has promise for improving the quality of children's diets.

Medicine effect: we like better a food that we eat when we are healthy instead of a food proposed when we are ill.

Flavour learning: between 2 foods of different taste.

Flavour nutrient learning: the more a food is energy-rich the more is appreciated, this is a primordial model.¹³

Parent-Child Correlations in Preferences

As reported by Pliner and Pelchat (1986), the family is the unit of analysis, with the resulting correlation indicating whether foods which one member likes, the other also likes, and vice-versa.¹⁹

Parental Strategies in Child Feeding

The other way in which parental influences on children's diets have been explored is to investigate the problems that parents identify in feeding children healthy foods and the strategies that they adopt to overcome them. Most attention is given to methods used by mothers to encourage consumption of disliked or refused foods where parents (usually mothers) report a restricted range of strategies including persuasive argument, (eat it up, it

will do you good), contracting for a reduced amount (OK, just eat half then), and promises of reward or punishment (if you eat it up you can have dessert but if you don't eat it you can't). However, evaluating the effectiveness of these strategies in the light of psychological research suggests that they are not likely to be very successful. Birch *et al.* (1984) showed that when children consumed foods in order to obtain rewards, preferences for those foods declined relative to control foods with equal exposure. Consequently continuing effort would be required to persuade the child to accept less-preferred foods over more-preferred foods resulting in child feeding being hard labour.¹⁹

Role of Parents in Preventing Childhood Obesity

The essential key to a child's behavior is parenting. Parents shape their children's lives in countless ways: with a focus on eating and health habits, the parents' knowledge of nutrition, influence over food selection, meal structure and home-eating patterns, modeling of healthful eating practices, levels of physical activity, and the modeling of sedentary habits, including television viewing. With parents playing such important roles in shaping child development, they are also vital to cooperative efforts to fight the nation's childhood obesity epidemic. Epstein (1996) identified three reasons to involve parents in obesity-prevention interventions. First, obesity runs in families. Second, parents serve as models. Finally, to produce maximum behavioral change in children, it may be necessary to teach parents to use specific behavior-changing strategies, such as positive reinforcement.¹⁸

What makes Fun not Fuss with Food unique?

A research study was conducted in 2002 that aimed to evaluate the effectiveness of the Fun not Fuss with Food workshop. Results showed that parents who attended the workshop reported significant improvements in their child's problem eating and mealtime behaviours and reported reductions in parental concerns regarding their child's problem eating and mealtime behaviours. The findings support the use of this early intervention group education workshop as a strategy for parents with children who have problem eating and mealtime behaviours.⁹

Recommendations for Practice on Nutritional Behaviour

The parental attitudes and behaviour are central to the development of children's eating habits, so it's important to give to the parents some strategies about their child's nutritional behaviour as:

1. Guidance for parents should include information on how children develop patterns of food intake in the family context.

2. Practical advice for parents includes how to foster children's preferences for healthy foods and how to promote acceptance of new foods by children.
3. Parents need to understand the costs of coercive feeding practices and be given alternatives to restricting food and pressuring children to eat.
4. Setting a good example: parental role modelling is important in establishing children's food choice.
5. Respond to satiety clues and do not overfeed.
6. Parents should remember that they are responsible for choosing foods and when and where food should be eaten.
7. Two natural parental impulses, pressuring children to eat and restricting access to specific foods, are not recommended because they often lead to overeating, dislikes and paradoxical interest in forbidden items.

Strategies to improving nutrition in young children are for parents, not children:

- to choose meal times;
- provide a wide variety of nutrient-dense foods, such as fruits and vegetables, instead of high energy-density/nutrient-poor "junk" foods;
- age-appropriate portion size;
- limiting snacking and use of juice or sweetened beverages;
- allowing children with normal body mass index to self-regulate total caloric intake;
- having regular family meals to promote social interaction and role model food-related behavior
- limit video and television watching to less than 2 hours daily, specially 'no TV' during meal times.
- Eating food with at least one parent.
- Never bribe or threaten children with food. Rewarding children with food or withholding food as punishment gives the wrong message about food and eating.^{13,5}

Why eat together?

- **Nutrition**— Children eat more balanced meals and a wider variety of foods when they eat with their family.
- **Tradition**— Sharing meals with family members helps pass along family and cultural traditions about food.
- **Comfort and security**— Children who eat meals regularly together with family feel satisfied and secure.
- **Learning**— Sharing meals and helping with meal preparation helps children learn more about food

and about how to eat and make healthy food choices. Get children involved with food!

- **Communication**– Sharing meals gives children and their parents time to talk, share and connect.¹¹

Above all as they say, ‘a family which eats together stays together’.

CONCLUSION

Parent food preferences, are enormously influential and eating together as a family provides a valuable opportunity for parents to model good eating habits. Parents employ a variety of strategies to improve their children’s eating habits some of which have been found to be counter-productive. Guidance for parents should include information on how children develop patterns of food intake in the family context. Practical advice for parents should include how to foster children’s preferences for healthy foods and how to promote acceptance of new foods by children. It is important to let parents know that children who are self-regulated in diet may better handle the current food-surplus environment. The ultimate goal is to motivate changes in parental nutritional practices and lifestyles, i.e., Positive Parenting.

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