

Short communication

Feeding strategies used by mothers of 3–5-year-old children

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Abstract

Appropriate use of parental feeding strategies could help establish healthy childhood eating practices. Research suggests that repeated taste exposure and modelling may be effective, pressuring and restricting may be counterproductive, and rewards may be effective or counterproductive depending on their use. However, little is known about the extent to which parents employ these strategies and within what contexts. The present study explored this using qualitative interviews with twelve mothers of children aged 3–5 years. Common strategies involved modelling, attempts to influence the child's attitudes and norms, and use of moderate pressure. The results are discussed in relation to the literature.

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Introduction

Establishing healthy eating habits in young children may have long-term benefits for diet and health. One means of influencing children's eating behaviours is via the feeding strategies employed by parents; research suggests that different feeding strategies may have very different outcomes. For example, repeated taste exposure to novel foods has been shown to be an effective means of increasing both liking and subsequent consumption (e.g., Birch & Marlin, 1982; Birch, McPhee, Shoba, Pirok, & Steinberg, 1987; Wardle et al., 2003). Likewise, modelling food consumption via adult, peer and sibling models, especially when paired with enthusiastic comments, has also been shown to be an effective means of encouraging consumption (e.g., Birch, 1980; Harper & Sanders, 1975; Hendsy & Raudenbush, 2000).

In contrast, other strategies may have undesirable outcomes. For example, restricting a child's access to a particular food has been shown to enhance both consumption of and liking for that food (Fisher & Birch, 1999) and

to be associated with increased eating and weight status (Faith, Scanlon, Birch, Francis, & Sherry, 2004). Similarly, pressuring a child to eat by requiring them to *finish* their food has been shown to be associated with reduced consumption and an increase in negative comments about the food (Galloway, Fiorito, Francis, & Birch, 2006). Pressuring strategies have also been linked to disinhibited eating later in life as a result of reduced sensitivity to satiety cues (Carper, Orlet Fisher, & Birch, 2000).

However, it is important to note that recent research suggests that some of the associations between children's diets and parent's use of such strategies may be due to underlying associations with children's neophobia rather than any negative consequences of restricting and pressuring (Wardle, Carnell, & Cooke, 2005). Likewise, research by Ogden, Reynolds, and Smith (2006) suggests that parent's use of such strategies may be more varied and subtle than those employed in the experimental literature and that they may in fact be associated with more healthy eating behaviours.

The effects of rewards within the food domain are likely to vary depending upon a range of factors. Using food *as a reward* tends to increase liking for that food (Mikula, 1989) but requiring a child to eat a food *in order to get a reward*

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may have either positive or negative consequences. Specifically, when used in a coercive or negative context, rewards tend to reduce the child's liking for the food (e.g., Birch, Birch, Marlin, & Kramer, 1982; Birch, Marlin, & Rotter, 1984) but when employed in a positive context, for example as indicators of achievement, or paired with praise, they have been shown to enhance both liking and consumption (e.g., Handen, Mandell, & Russo, 1986; Horne et al., 2004; Lowe, Horne, Tapper, Bowdery, & Egerton, 2004). (See Lowe et al., 2004 for further discussion.)

Thus parental feeding strategies may include features of repeated taste exposure, modelling, pressure, restriction and rewards. Although some literature suggests parents commonly employ such strategies (e.g., Birch, 1998, p. 619), little is known about the ways in which they employ them or how they combine or alternate between them. It is possible that parents employ a wider range of techniques than those described above. The present study aimed to explore the feeding strategies used by parents of pre-school children to encourage or discourage consumption of familiar foods and to encourage consumption of novel foods.

Method

A qualitative methodology was adopted due to the exploratory nature of the study. The sample was recruited using a snowballing technique (Bryman, 2001) originating from contacts of the first author. It consisted of twelve mothers with a child aged between 3–5 years who was the target of the interview. Mothers' ages ranged from 31 to 42 years (mean = 36). The target children were 4 girls and 8 boys aged 36–71 months (mean = 51).

The semi-structured interview employed four main questions to prompt participants to recall and talk through their actions during four types of eating occasions. These were when the target child was: (a) reluctant to eat familiar foods; (b) presented with novel foods; (c) discouraged from eating undesirable foods; and (d) when the mother had used strategies that did not involve interacting with the child. Probe questions were used to elicit more detail or to re-focus responses which deviated from the areas of interest, e.g. 'Can you tell me more about what (*target child*) did in response to (*mother's strategy*)'. Care was taken not to influence participants with direct questions about particular strategies unless they failed to mention a strategy or had difficulties freely recalling relevant episodes. They were briefed that there were no 'right' or 'wrong' answers and that those with older children could mention incidents involving them when they were 3–5 years old. The interviews lasted approximately 20 mins and were recorded, transcribed and subjected to concurrent coding and interpretation (Coffey & Atkinson, 1996). Codes were assigned at the 'manifest' level of what the interviewee said and at the 'latent' level where meaning was inferred from the words spoken (Mason, 2002).

Results

All mothers reported using strategies to encourage their child to eat familiar and novel foods and to discourage their child from eating undesirable foods. Mothers tended to draw on a broad range of strategies, with 126 different strategies mentioned and 51 unique to a mother–child pairing. Nevertheless, it was possible to group strategies, either based on characteristics defined in the literature (e.g., modelling), or by identifying common features (e.g., influencing attitudes/norms)—see Table 1.

Modelling was used by all mothers to encourage consumption of familiar foods and by five mothers to introduce novel foods. The most popular strategy was to ensure that the mother, if not the father, ate with the child ($n = 10$). Mothers would ensure that everyone was served the same food ($n = 6$) and eating was often paired with comments about how tasty the food was ($n = 4$). The latter was the most common modelling strategy used when introducing novel foods ($n = 3$).

Moderate pressure was used to encourage consumption of foods ($n = 11$), which was most commonly manifested as assertiveness ($n = 10$), e.g., firmly insisting that the child ate ($n = 6$). Many mothers rejected the use of intense, protracted or non-negotiable pressure ($n = 7$). The strongest forms of pressure were mild threats ($n = 8$) and punishments ($n = 3$), most commonly associated with the removal of rewards used to encourage eating.

Restriction was used to discourage the consumption of 'undesirable' foods. The most popular strategy was not to buy such foods ($n = 7$), which included not taking children to fast food outlets ($n = 3$). Some foods were reserved for 'special' occasions ($n = 2$) such as weekends.

Reward strategies were used to encourage ($n = 7$) and discourage food consumption ($n = 4$) but not to introduce novel foods. When probed directly two mothers rejected their use. To encourage consumption, rewards were usually contingent upon *finishing* the meal ($n = 6$),

Table 1
Types of strategy used to encourage/discourage food consumption

Type of strategy	Total ^a	Encourage ^a		Discourage ^a
		Familiar	Novel	
Modelling	12	12	5	0
Influencing attitudes and family	12	8	11	9
Indirect ^b	11	11	3	0
Pressure to eat	11	11	3	0
Miscellaneous ^c	10	10	1	0
Rewards	9	7	0	4
Restriction	8	0	0	8
Repeated exposure	6	2	6	0

^aNumber of mothers mentioning the strategy, irrespective of frequency or effectiveness.

^bStrategies that do not involve interacting with the child.

^cStrategies with no major common features, e.g., distracting the child, making games out of eating, granting good eaters some autonomy.

but, occasionally, upon eating just a bit of it ($n = 2$). In these cases, the most common rewards were food, usually desserts ($n = 6$), or valued activities like watching television ($n = 2$). The reward was a standard feature of the mealtime rather than a temporary incentive. Using food as a reward for good behaviour was used as a form of restricting preferred but undesirable foods ($n = 3$).

Repeated exposure strategies were used to introduce novel foods ($n = 6$) and occasionally to encourage consumption of non-preferred foods ($n = 2$). Introducing new foods was something faced by all mothers and half adopted a strategy of continually doing so. Mothers reported that their children would identify any food with a strange appearance, smell or texture and refuse to eat it. They would usually not accept such refusals, possibly applying a second strategy immediately which encouraged the child to try the food, or possibly, serving the food at a later date ($n = 5$).

All mothers used strategies that attempted to influence the child's attitudes and family norms (i.e. standards of eating behaviour). Typically, these related to the foods and eating behaviours associated with the mother's concept of a well-balanced diet (e.g., a diet including fruit and vegetables but limited amounts of sugar or processed foods). Twenty-two different strategies were reported and were the only type of strategy used in all three-food scenarios (i.e. encouragement, discouragement and novel foods). Persuasion was common ($n = 7$), for example, that the child's teeth would suffer if they ate poor food ($n = 2$), as was negotiation ($n = 10$), for example, agreeing a healthy substitute for an undesirable food ($n = 5$). Joint food related activities were also popular, e.g., cooking ($n = 5$).

Eleven mothers also used additional strategies to *indirectly* influence what the child ate. For one mother, these were preferred because the child was strong willed and interactional strategies invited confrontation. The only mother not to use indirect strategies had no need to since her child was a good eater. Examples included: (a) serving the child their preferred foods ($n = 10$); (b) presentation ($n = 10$) e.g., mashing together ($n = 4$); (c) food preparation ($n = 8$) e.g., dishes containing chopped vegetables ($n = 6$); and (d) cutting novel food up small ($n = 3$).

Ten mothers described other strategies that neither fell into any of the preceding categories, nor had any major shared features. Examples included distracting the child whilst eating ($n = 4$), allowing the child to ask for food when hungry ($n = 5$) and allowing the child to dictate when, what or how they ate ($n = 4$).

The mothers had extensive repertoires of feeding strategies (range 13–30 strategies, mean = 19), although they would generally favour one type of strategy based upon the child's temperament and eating status. For example, distraction strategies were favoured by the mother of a disinterested eater. Strategies were selected based on long-term goals (e.g., establishing a varied, well-balanced diet) and short-term goals (e.g., avoiding the child

going to bed hungry). A strategy would have to be age appropriate and its emotional and social implications would be considered (e.g., creating distress or conflict). Mothers imposed boundaries which defined the intensity and/or duration of the strategy. If one strategy failed, the mother might try another either within or between interactions (e.g., persuasion, followed by reward, possibly escalating to punishments). When devising strategies, mothers primarily relied on intuition and experience.

Discussion

Each of the mothers in the present study used modelling of eating as a strategy for feeding her pre-school child. Reported modelling strategies included eating together, which was the most popular strategy for encouraging consumption of familiar foods in this sample.

Strategies to influence attitudes and family norms were used by all mothers, in all three feeding scenarios (encouraging familiar novel foods and discouraging consumption). The efficacy of such strategies has not been explored in relation to parental feeding but there are a number of health behaviour models where attitudes and norms influence behaviours, e.g. the Theory of Planned Behaviour (Ajzen, 1991). However, research has questioned the predictive ability of such models with respect to primary schoolchildren's food choices since findings suggest that hedonism outweighs reasoned judgements (Folta, Bell, Economos, Landers, & Goldberg, 2006). Given the frequency with which mothers used these strategies, further research is needed to establish their effectiveness.

Indirect feeding strategies were another popular and diverse type of strategy that is unreported in the literature. It could be argued that such strategies are also attempts to influence the child's family norms. Again, further research is needed to establish their efficacy.

With respect to novel foods, the literature reported positive effects from repeated taste exposures (e.g., Birch et al., 1987). Mothers' strategies tended to reflect a need for taste exposure since they were aware that, prior to tasting, the child would refuse to eat any food with a strange appearance, smell or texture. However, this strategy seldom occurred in isolation, more often being accompanied by modelling or negotiation. Indeed, it was often these accompanying strategies that would encourage the child to taste the food. Although this is in line with Birch et al.'s assertion that repeatedly tasting a food is an important influence on liking (1987), there was no evidence that the mothers were aware of these effects of taste preference. The most dominant outcome sought by mothers was to establish eating behaviours associated with a well-balanced diet rather than to increase liking for particular foods.

As suggested by Birch (1998), rewards were commonly used to encourage consumption of familiar foods. They were generally a standard mealtime feature rather than a temporary incentive, and, in keeping with much of the

experimental literature (e.g., Birch et al., 1982, 1984), seemed to be offered in a more ‘coercive’ context rather than as a mark of achievement. Although requiring children to eat a food in order to get a reward has been shown to decrease liking for that food in the longer term (Birch et al., 1984), none of the mothers using reward strategies commented on any adverse effects. However, as noted above, their goals were to establish acceptable eating behaviours, rather than influence food preferences. Further observational studies are recommended to explore the characteristics of reward strategies employed together with their intended and actual outcomes.

Restrictive and pressuring feeding practices were commonly employed. However, it is debatable whether they were as authoritarian as those used in experimental studies. Indeed, the mothers imposed subjective boundaries within their concept of ‘pressure’ to separate firmness from unacceptable force and also spoke of applying moderation or explanation to temper their restrictive practices. In particular, restrictive practices predominantly consisted of strategies such as not buying foods or not visiting fast food outlets. Ogden et al. (2006) classified these as covert strategies and found that they were associated with a reduced intake of unhealthy snacks. As suggested elsewhere (e.g., Ogden et al., 2006; Wardle et al., 2005), further research is needed determine the effects of these more moderate pressuring and restricting strategies.

When considering the findings of the present study, it is important to bear in mind its limitations. The sample was small and homogeneous for socio-economic status (measured by home ownership and access to a car) and included older mothers. Therefore, the ecological validity of the findings could be extended by replicating the study using fathers, younger mothers, other carers and those in other socio-economic groupings. Much reliance was placed on the recollections of mothers at one snapshot in time, therefore, using other methodological approaches, such as observation, could overcome this issue. Although the findings established *what* strategies mothers used, further research is suggested to establish frequency of use and efficacy in terms of establishing a healthy diet. Empirical testing of strategies that influence attitudes and norms, including indirect strategies, is needed, as is an understanding of the effects of applying moderation to temper restrictive and pressuring feeding strategies.

In conclusion, this exploratory study has stepped back from the evidence on the efficacy of parental feeding strategies and investigated the bigger picture of *what* mothers actually do. It has demonstrated the diverse and creative nature of the strategies used by mothers and shown that strategies involving modelling, pressure, restriction, rewards, repeated taste exposure and attempts to influence attitudes and norms are frequently employed. This is of concern in some instances since certain strategies may be counterproductive in terms of the child’s long-term food preferences.

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