

2 The home

Recent Australian research shows that families adopt varying 'rules' or ways of eating (Campbell, Crawford and Worsley 2002). Relatively little is known about the ways in which families buy, prepare and consume foods—for example, the content and timing of specific eating occasions. This is an important and fertile research area in which a number of studies have been conducted:

- Families of lower socioeconomic status, for example, tend to eat at the table (in contrast to those of higher economic status), while some ban television watching or telephone calls during meals, and around one quarter have arguments during the main evening meal at least three times a week (Campbell et al. 2002).

- Davison and Birch's (2001) work on 'parenting styles' suggests permissive and authoritarian styles can have marked effects on the quality of foods consumed.
- In Victoria, Campbell, Crawford and Worsley (2002) have shown that the energy density of drinks supplied to young children is greater in families of low socioeconomic status.

The 'Food Dudes' program (box 6) illustrated the potential of the home as a setting for healthy eating. Some of the stakeholders in the Review of Children's Healthy Eating Interventions noted that many parents are interested in learning how to feed their children and how to overcome behavioural difficulties associated with food and eating. 'Food Dudes' illustrates just one approach, but there are other ways of including the home setting (such as special cooking and healthy eating demonstrations for parents at food outlets and health and child care centres, internet sites, and radio and television programs).

Box 6: Intervention example—'Food Dudes' at home

Our studies into increasing children's fruit and vegetable consumption were first carried out in the home environment with a small group of 5- to 6-year-old children (identified by their parents as 'fussy eaters') who ate little fruit and vegetables (Dowey 1996; Horne et al. 1995; Lowe et al. 1998). The studies employed a multiple baseline research design (Kazdin 1982), in which, following baselines of varying duration, the start of the intervention was staggered over time across foods, being introduced first for fruit and then for vegetable consumption. The studies evaluated the effects of four different procedures on children's consumption of a range of fruit and vegetables presented to them. The procedures were as follows: fruit and vegetable presentation only; rewarded taste exposure; peer modelling; and rewarded taste exposure combined with peer modelling.

The peer-modelling element consisted of a video featuring the heroic 'Food Dudes', a group of four slightly older children who gain superpowers from eating fruit and vegetables. The Food Dudes do battle against evil 'Junk Punks' who threaten to take over the planet by destroying all the fruit and vegetables, thereby depriving humans of their 'Life Force' foods. Throughout the video the Food Dudes eat and enjoy a variety of fruit and vegetables. The reward consisted of items such as Food Dude stickers, pens and erasers, awarded to the children for eating target amounts of fruit and vegetables.

The results showed that the combination of peer modelling and rewards was very effective at increasing children's consumption of both fruit and vegetables. Prior to the introduction of the intervention, the children were consuming an average of 4 per cent of the fruit presented to them at home by their parents, and just 1 per cent of the vegetables. However, upon the introduction by their parents of the video and rewards, fruit consumption increased to 100 per cent and vegetable consumption to 83 per cent.

Follow-up measures taken six months later showed that not only were the increases large, they were also maintained over time. The children were still eating 100 per cent of the fruit presented to them and 58 per cent of the vegetables, even though they were no longer receiving the rewards or watching the video. In addition, there was evidence to show that the effects were not simply restricted to the fruit and vegetables that the children had been rewarded for eating, but also occurred for other items children were able to name as fruit or vegetables.

By way of contrast, the results also showed that continued presentation of fruit and vegetables alone had no effect on children's consumption. Likewise, the effects of the peer-modelling video without the rewards were minimal. There were some effects when the rewards were used without the video (especially with fruit), but by far the greatest increases in consumption were achieved when the video and rewards were combined. We believe that because the rewards are labelled as 'Food Dude' items, they acquire considerable potency through their association with the characters on the video, and that for this reason the effects of the combined elements are greater.

The 'whole-school' program

We have recently completed the development and evaluation of a 'whole school' Food Dude program for use across the entire primary age range (4–11 years). The program is designed to be implemented entirely by school staff and contains the following elements:

- a Food Dude video containing six 6-minute adventure episodes
- a set of Food Dude rewards
- a set of letters from the Food Dudes (these provide praise and encouragement and remind children of the reward contingencies)
- a Food Dude homepack to encourage children to eat fruit and vegetables in the home context as well as at school
- a staff manual and staff briefing video to help teachers implement the program correctly
- a set of education support materials to help teachers meet curriculum targets using the Food Dude theme.



The main intervention phase of the program lasts for a period of 16 days during which children watch the Food Dude video episodes and listen to their teacher read out the Food Dude letters. Children also receive rewards when they eat the fruit and vegetables that are presented to them. They receive a Food Dude sticker for tasting a food, or a sticker and a small prize for eating a whole portion.

The intervention phase is followed by a maintenance phase during which there are no videos and the letters and rewards become more intermittent. It is possible to implement the program either at snack time or lunchtime or at both.

Evaluating the program

Initial evaluation of the new whole-school program was carried out in three schools, in Bangor in North Wales, Harwell in Oxfordshire and Salford in Manchester (Lowe et al. 2001; Lowe et al. 2002).

The studies showed that the program resulted in large, statistically significant increases in fruit and vegetable consumption in all three schools at both snack time and at lunchtime. The increases occurred for both boys and girls in infant and junior classes (4–7 and 7–11 years respectively).

Data collected from a subset of parents in the Salford school also showed a significant increase in the number of portions of fruit and vegetables consumed on weekdays. (The number of portions consumed on weekend days showed an increase but this failed to reach statistical significance. Since most of the program was delivered at school during the weekdays, the absence of change at the weekend may have occurred due to a lack of appropriate cues, e.g. being reminded at home of the positive consequences of eating fruit and vegetables.)

Further evaluation of the program was carried out in two schools in Lambeth in south London (Lowe et al. 2002; Tapper et al. 2002). One of these acted as an experimental school, receiving the full Food Dude program, whilst the other acted as a control and simply received the additional fruit and vegetables for the duration of the study. Again, the results showed significant increases in fruit and vegetable consumption at snack time and at lunchtime in the experimental school, but not in the control school. Follow-up measures, conducted four months after the end of the intervention, also showed that children in the experimental school were still eating significantly more fruit and vegetables at lunchtime than they had been prior to the introduction of the program.

Teachers and parents also responded very positively. As well as commenting on how much children had enjoyed the program, teachers reported additional benefits such as enthusiasm for curriculum work using the Food Dude theme, improved school attendance and an increased confidence amongst children who were not normally big achievers. Likewise, almost all of the parents who returned a questionnaire sent to them at the end of the study felt that their child had enjoyed and benefited from taking part.

References

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Web link

The Food Dudes site: www.fooddudes.co.uk

Source: Tapper, Horne, and Lowe (2003)