Children learn to eat the foods their parents eat, and they will automatically eat a variety. However, typical childhood eating behaviors and poor information about feeding lead parents to feed in ways that hinder, rather than foster, food acceptance. What do we know about children's ability to learn to like and eat a variety of food? What do we know about productive and counterproductive approaches to feeding?

Some of the earliest research was reported in 1928 by Clara Davis, a New York Mt. Sinai Hospital physician. At the time, pediatricians dictated precisely the food amounts, types, and feeding frequencies for children from 7 months to 3 years of age. The rigid feeding advice was based on the convictions that the transition from breastfeeding to adult food should take 3 or 4 years and that infants didn't know how much they needed to eat. Davis questioned these convictions, and she tested them in experiments with three boys ages 8, 9, and 10 months. For 6 to 12 months, she and her team offered the infants trays with a variety of natural, healthy food. At first the babies sampled everything—the dishes and the doilies as well as the food. They soon learned to discriminate between food and non-food, and between what they wanted to eat and what they didn't. It was impossible to predict what a child would eat at a given meal. An infant might eat from one to seven eggs a day or one to four bananas. Milk consumption ranged from 11 to 48 ounces. The infants even ate salt occasionally, crying and spluttering but not spitting it out, then going back for more. At the time he was enrolled in the study, one infant had rickets caused by vitamin D deficiency. To correct the deficiency, he was offered cod liver oil in one of his little dishes. Over the first several months of the experiment, he voluntarily consumed almost 9 ounces of the strong-tasting oil. His rickets healed and his tests showed that his vitamin D status was corrected. Then he stopped consuming it, even though it was still on his tray.¹

Davis's study demonstrated that infants could be healthy and grow well on self-selected diets. Essentially, the researchers maintained the division of responsibility in feeding. They chose a variety of simple, single-ingredient, healthful food for the infants and then let them pick and choose from what was available. Unfortunately, Davis's study is often misquoted and used to rationalize letting children freely graze for self-selected food.

Pennsylvania State researcher Barbara Rolls freshened up the Davis research and gave it a new name. Rolls found that through a process she calls sensory specific satiety, children and other people tire of even favorite food and choose otherwise.²

As with Clara Davis's babies, children's variations in appetite lead them over time to eat a variety of food and, provided grownups take responsibility for feeding them and maintain a nutritionally adequate diet. Observational studies conducted at the University of Illinois preschool illustrate that children are particularly equipped to make use of these internal cues. These studies found that children are tuned in to food and are far more likely than adults to eat...
nutrition professor Kaye Stanek found that preschoolers do better with food acceptance when they eat with their parents and/or siblings, when they are given enough time to eat, when they are allowed to help prepare foods or set the table, and when they are allowed to take small portions of new foods.7

Problems with Food Acceptance

Children learn to eat—or not eat—from the way they are fed. Feeding problems are common, as are negative feeding behaviors. A 2003 review of the literature indicates that 25 to 45 percent of typically developing children and up to 80 percent of developmentally disabled children have feeding problems. These problems include bizarre food habits, mealtime tantrums, delays in self-feeding, difficulty in accepting various food textures, and multiple food dislikes, as well as feeding disorders such as infant rumination, childhood obesity, and infant anorexia nervosa.8

Stanek found that typical negative food-related behaviors of parents with 2- to 5-year-old children include bargaining, bribing, and forcing; promising a special food, such as dessert, for eating a meal; withholding food as punishment; rewarding “good” behavior with food; persuading children to eat; playing a game to get children to eat; taking over and feeding children who refuse to eat; threatening punishment for not eating; and making children clean their plates.7

Parents engrossed in feeding struggles with their children have difficulty perceiving their own contribution to the problem. Children have trouble learning to like new food if they have either too few opportunities to learn or too much pressure. Children eat poorly when parents limit menus to food that children readily accept, fail to provide regular and reliable opportunities to eat, or encourage, persuade, or insist that they eat. Skinner’s Tennessee studies show that adults try food only three times before it disappears from the table9 and that almost three-quarters of mothers of 16-month-olds offer alternatives when their toddlers don’t eat “enough.” More than 10 percent acknowledge using force or bribery to get children to eat.4 Pelchat and Pliner found that Toronto children who are reluctant to try new food have mothers who short-order cook or offer only foods that children readily accept. The Toronto
Children and Food Acceptance: The Research

against pronounced or unusual tastes and textures. Some children are super-tasters—they can detect the bitter taste in foods including cabbage-family vegetables\textsuperscript{16} and they may be more tuned into sweet and other flavors as well. Some children are temperamentally negative with respect to new experiences—including food experiences\textsuperscript{17}.

However, children do not have to be handicapped by their predilections, and that brings us to nurture. Even children who have temperamental or neurological barriers can learn to cope with their own limitations. The same as all other children, they set out to learn to eat the food their parents eat and they learn to like a variety of food. They do, that is, provided they have regular and unpressured opportunities to learn. That means the food matter-of-factly shows up again and again on the family table and parents eat and enjoy it. It also means that parents do not pressure children in any way to eat: they do not remind, badger, reward, applaud, or withhold dessert until the child eats her vegetables.

What conclusion can we reach from this research? Children are capable of learning to eat the foods their parents and other trusted adults eat. However, they need help from adults if they are to act on and retain that capability. Children observe what foods their parents eat and assume, even if they don’t eat them, that “someday I will eat that.” Their assumption and their desire to grow up can be squashed by adults’ behaving at either, or both, of two extremes: by imposing too much pressure or by providing too little support. Children need adults to be supportive and companionable, to show them what it means to grow up with respect to food, and to give them opportunities to experiment and master. They don’t need to be coerced, controlled, or even motivated. Being motivated to learn and grow comes with being a child.

Nature or Nurture?

Research by Lucy Cooke indicating that there is a genetic basis for food selectivity\textsuperscript{15} raised the hopes of beleaguered parents that their child’s food rejection wasn’t, as one mother put it, “my fault.” Are children selective with food because of inborn predisposition, or because of their upbringing? With respect to nature, of course there are differences in children. Some children are exquisitely sensitive to tastes and textures, have a strong gag reflex, and throw up easily. Some children are diagnosed as having sensory integration disorders, meaning they react

mothers prod, reward, and punish to get children to eat. Those alternatively overindulgent and pushy mothers are seemingly unaware of their own counterproductive feeding behaviors and instead complain that their children are finicky, unwilling to try new foods, avoid whole classes of foods such as vegetables, eat too little, prefer junk food, or are simply not interested in food and eating.\textsuperscript{10}

Like the Toronto mothers, Pennsylvania parents appear to be both overindulgent and pushy. Parents in focus groups said that they want to provide good nutrition with not too many sweets and processed foods. At the same time, they short-order cook for their children, use bribes and rewards to get their children to eat, believe their children are being untruthful when they say they are full, and encourage children to eat more when they say they are full.\textsuperscript{11} Children are tuned in to their grown-ups and know when they are being pressured, even when that pressure wears a seemingly pleasant disguise. Nonetheless, 85 percent of San Francisco parents of kindergarteners observed during feeding include reasoning, praise, and rewards among their repertory to get children to eat more than they do voluntarily.\textsuperscript{12} Studies in Pennsylvania State preschool laboratories indicate that children who are pressured to eat consume less food and make more negative comments about the food than children who are not pressured.\textsuperscript{13} Parents have been repeatedly reminded that fruits and vegetables are important and try to get their children to eat them, even if the parents themselves don’t like and don’t eat them. Texas researcher Jennifer Fisher observed that under such circumstances, children do not eat their vegetables. On the other hand, parents who like and eat fruits and vegetables have children who do the same.\textsuperscript{14}

References


