




WHY WE EAT MORE  
THAN WE THINK

Mindless  
EATING

"Brian Wansink's discoveries might very well  
change your life."—O, *The Oprah Magazine*

BRIAN WANSINK, PH.D.



# Mindless Eating

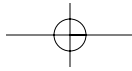
Why We Eat More  
Than We Think



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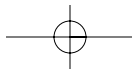
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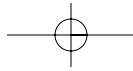
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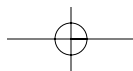
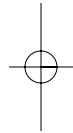
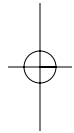
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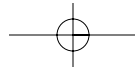
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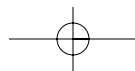
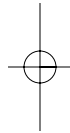
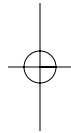
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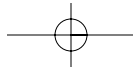
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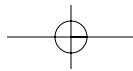
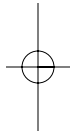
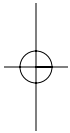
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## Nutritional Gatekeepers

**M**OST OF US HAVE the illusion that we're the master and commander of our food choices. As I hope this book has persuaded you by now, we are wrong. Many of these choices are habits. Some we inherited and others were knowingly or unknowingly conditioned by our parents and the food tools they used.

Food tools? Sure. Remember eating your vegetables to get dessert, getting good grades to go to Dairy Queen, cleaning your plate to save all of the starving children in China? A generation later, we are using the same kinds of tools with our children. And as they grow older, they reflect more and more of the inherited and conditioned food habits we have passed down to them like family heirlooms.

If you struggle with your own food heritage, here is where you get your second chance—as a nutritional gatekeeper.

The biggest food influence in our life is the nutritional gatekeeper. This is the person in our home who does most of the food shopping and meal preparation. Regardless of



whether they're a great cook or whether they're "culinarily challenged," they have a huge day-by-day influence on their family's nutrition.

### The Nutritional Gatekeeper and the Good Cook Next Door

In most households, decisions about what to eat for breakfast, lunch, dinner, and snacks are determined by what foods the grocery shopper—the nutritional gatekeeper—brings into the house. Although they don't always realize it, gatekeepers powerfully shape what food gets eaten both inside and outside the house.

Suppose a teenager wants to eat Pop-Tarts, but there aren't any in the cupboard? The gatekeeper has de facto decided they won't be on the menu. This poor Pop-Tart hungry teenager either has to make a special trip to the grocery store, or pressure Mom or Dad to put them at the top of the next shopping list.

Exactly how much influence does a gatekeeper have?

On a steamy Manila-like August morning in Washington, D.C., in 2005, I met with 800 dieticians, nurses, and physicians at a conference of the American Association of Diabetes Educators. These experts are paid to know how people *should* eat and how they *do* eat. They watch their diabetic patients—and their families—eat day in and day out. I asked them about the nutritional gatekeeper, the person who does most of the shopping and cooking in a household (around 90 percent of the time this is the same person). I asked them to estimate

**Fruit Lovers**  
**vs.**  
**Vegetable Lovers**

Are fruit lovers different from vegetable lovers? We surveyed 770 people and found some interesting differences:<sup>1</sup>



Compared to the average person, vegetable lovers:

- Like to try new recipes and entertain at home
- Enjoy spicy foods
- Think they cook nutritiously
- Enjoy an occasional glass of red wine with dinner



Compared to the average person, fruit lovers:

- Often eat dessert with dinner
- Spend little time cooking
- Avoid new recipes and entertaining
- Enjoy an occasional candy bar

If we step back, the survey results make sense: fruits are convenient, but veggies often require preparation. Someone who's vegetable-prone may be more accustomed to cooking—and more comfortable with new recipes or the prospect of dinner guests.



Fruits are generally sweeter than vegetables, and fruit lovers may prefer sweeter foods, desserts, and candy. Vegetables, however, run the range from bitter to savory. That's probably why vegetable lovers prefer the strong and savory tastes of exotic or spicy foods, and even the bitter tannins of red wines.

what percentage of the food eaten by these families—snacks, meals, out-of-the-house meals, everything—is controlled by the gatekeeper. Their answers surprised me.

They estimated that the gatekeeper controlled 72 percent of the food decisions of their children and spouse.<sup>2</sup> After all, they were the ones who bought almost everything that was eaten at home, they were the ones who either made their children's lunches or gave them lunch or snack money, and they were the ones who influenced family restaurant orders by what they recommended or ordered themselves.

We have since asked over 2,500 parents to estimate this percentage. Some were 10 points lower or 10 points higher, but the answer was always in the same range. Only one group stood out, because their estimates were consistently high. These were people who also rated themselves as “good



## Lessons from the Good Cook Next Door

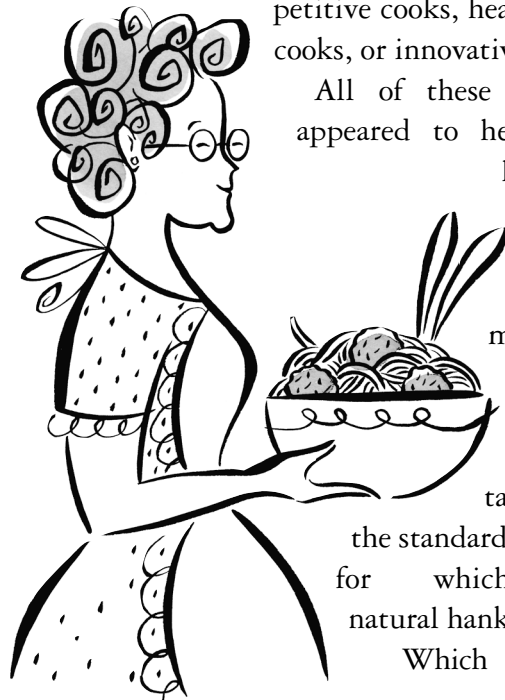
A study of 317 good cooks showed that most of them tend to fall into one of five basic groups:<sup>3</sup>

- **Giving Cooks (22 percent).** Friendly, well-liked, and enthusiastic, they specialize in comfort foods for family gatherings and large parties. Giving cooks seldom experiment with new dishes, instead relying on traditional favorites. The only fault of the giving cook is that they tend to provide too many home-baked goodies for their family.
- **Healthy Cooks (20 percent).** Optimistic, book-loving, nature enthusiasts who are most likely to experiment with fish and with fresh ingredients, including herbs.
- **Innovative Cooks (19 percent).** The most creative, trend-setting of all cooks. They seldom use recipes; they experiment with ingredients, cuisine styles, and cooking methods.
- **Methodical Cooks (18 percent).** Often weekend hobbyists who are talented, but who rely heavily on recipes. Although somewhat inefficient in the kitchen, their creations always look exactly like the picture in the cookbook.
- **Competitive Cooks (13 percent).** The Iron Chef of the neighborhood. Competitive cooks are dominant personalities who cook in order to impress others. These are perfectionists who are intense in both their cooking and entertaining.

cooks.” This made some sense. It was in line with a study we did that showed that many veggie lovers claimed either to be a good cook, to live with a good cook, or to have had a parent who was a good cook.<sup>4</sup> But exactly who were these good cooks, and why were they so influential?

We decided to track down the mysterious North American

Good Cook, take some psychographic snapshots of the species, and decipher their influence. To do this, we surveyed 317 “good cooks” who were considered “above average” by themselves and by at least one other member of their family. They came from a wide range of ethnicities, income levels, and education levels. Besides being good cooks, they all had one thing in common—they had never attended culinary school. Some had learned from a parent, others on their own; some cooked out of necessity, and some for fun. We asked them 152 questions about how they cooked, what they cooked, when they cooked, what kind of person they were, and what they did in their spare time. We found that 82 percent of them fit fairly neatly into one of five personality profiles. We classified them as giving cooks, competitive cooks, healthy cooks, methodical cooks, or innovative cooks.<sup>5</sup>



All of these cooks—except one—appeared to help their families eat healthier. They did this largely through the wide variety of food they served. A varied menu makes eating more pleasurable and can lead family members to expand their tastes beyond the standard fatty, salty, sweet foods for which we have a natural hankering.

Which good cook seemed to

have the least positive impact on adult eating habits? Interestingly enough, it was the most common one—the giving cook. Although giving cooks put the stamp of variety on their meals, it was mostly in the form of high-carb entrées, baked goodies, and desserts.

Does this mean that if you're not a good cook, your children are destined to a lifetime of Domino's Pizza and Fritos? No, of course not. One key take-away for us "not so great cooks" is the good we *can* do just by adding more variety to our meals. How? By 1) buying different foods, 2) trying new recipes (including ethnic ones), 3) substituting different ingredients (mainly vegetables and spices) into favorite recipes, 4) taking kids to the grocery store and letting them choose a new, healthy food, or 5) visiting authentic ethnic restaurants. (Sorry, McDonald's is not a Scottish restaurant.)

When a child develops a taste for a wide range of foods, healthy foods can be more easily substituted for less healthy ones.<sup>6</sup> He or she may even discover favorites other than pizza, French fries, and Juicy Juice. Will your daughter learn to *love* broccoli? Maybe not, but she'll probably be more willing to eat it occasionally for dinner or with a low-calorie ranch dressing as a snack.<sup>7</sup>

### Food Inheritance: Like Mother, Like Daughter

We sometimes hear that a child "inherited" his sweet tooth, or her love for vegetables or spicy foods, from a parent. Although the genetics jury is still out, it's clear that children

adopt some of their mother's tastes when they're still snoozing away in the womb. Remember that pregnant women

### The Baby Buffet

Most children go through a finicky eating stage at two years of age, but when they are one year old, anything within arm's-length goes into their mouths. This provides a great opportunity to introduce them to all sorts of healthy new tastes—even non-kidlike vegetables.

My Lab recently began what we call "Operation Baby Buffet." We enlisted a nationwide panel of parents of one-year-old children, and we instructed them (under the guidance of a pediatrician) to be adventurous—even bold—in the variety of foods they put in front of their grabby baby or which they blend into baby food (including—starting with the letter "A"—avocados, asparagus, and fresh anchovies).

Our hypothesis is that all of this variety will predispose their little taste buds to liking a wide range of healthy foods. Although this predisposition may go dormant for a few years, it might awaken down the road when they mysteriously find themselves hungry for Camembert cheese and gingered beets with raisins.<sup>8</sup>

who drank carrot juice in their last trimester significantly increased how much their children preferred carrot-flavored cereal months later.<sup>9</sup>

Not only do they develop prenatal munchie preferences, children also start learning what they like and *don't* like before they're four months old. They do this by picking up on signals a parent or caretaker unconsciously gives about whether a food is tasty or not.

This was first discovered in the Massachusetts Reformatory for Women during the 1940s. The women incarcerated there were able to keep their children under three years of

age and to frequently visit them and their caretakers in the nursery. Records were kept on what the children ate, so it was noticed when their juice preferences abruptly changed. The psychologist at the reformatory, Sibylle Escalona, began to suspect that the caretakers were unconsciously influencing what the children preferred.<sup>10</sup>

Her report starts out, "It came to attention accidentally that many of the babies under four months of age showed a consistent dislike for either orange or tomato juice." She then went on to report that babies who had refused to drink orange juice for about three weeks would all of a sudden turn into orange-juice lovers within two or three days. She traced these abrupt shifts to changes in caretakers. Upon being interviewed, it was found that a couple of the new caretakers had a strong preference for orange juice and a dislike for tomato juice. Somehow this was passed along to the infants.

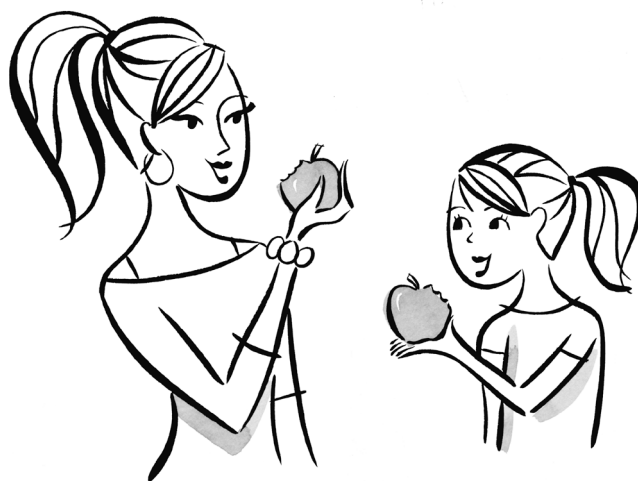
But how? Interestingly, even two-day-old babies are known to be able to imitate facial expressions of adults.<sup>11</sup> It could be that these caretakers subconsciously showed subtle signs of acceptance or rejection based on what they personally felt toward the foods. A fleeting smile or grimace might go a long way toward explaining why one baby has Daddy's sweet tooth and another has Mommy's love for vegetables. It also makes good sense that people feeding babies pretend to taste the food (Mmm . . . yummy!) and open their mouths and play "airplane hangar" when feeding the little tykes.<sup>12</sup>

Escalona's accidental discovery has aged well. Watching someone grimace when eating scares elementary children



away from even an otherwise tasty food.<sup>13</sup> Smiles and friendliness work in reverse—you can attract more children to new foods with honey than with vinegar. When a friendly adult repeatedly gave children either canned unsweetened pineapple or cashews, they quickly learned to like the new food more than when it was given to them by a less friendly adult.<sup>14</sup>

It is not only our tastes that our children can inherit. It also can be our attitudes about food and eating. In one Yale study of normal-weight one-year-olds, mothers who were highly preoccupied with weight issues were more likely to be erratic in their behavior during meals. Sometimes they urged their one-year-olds to eat more, sometimes to eat less, and sometimes they rushed their feedings. They were also much more emotionally aroused when feeding their babies compared to mothers who weren't concerned with weight issues.<sup>15</sup> Children see this anxiety and these food obsessions at a tender *tabula rasa* age.



### Is It Baby Fat or Real Fat?

The answer partly depends on the parents. A study of 854 Washington State children under three years old showed that a child is nearly three times as likely to grow up obese if one of his parents is obese. If you're overweight, your child has a 65–75 percent chance of growing up to be overweight.<sup>16</sup>

So, is that little paunch on your fourth grader baby fat?

Not if you're sporting the same paunch.

### Food Conditioning and the Popeye Project

In turn-of-the-century pre-Bolshevik Russia, physiologist Ivan Pavlov rang a bell and fed his dogs frequently enough for them to associate the ringing of the bell with food. Eventually the dogs started to salivate every time they heard the bell—even if there was no food.

Eighty years later, psychologist Leann Birch reran Pavlov's classic experiment, with a few twists. She and her team repeatedly gave preschool children snacks in a specific location where they would always see a rotating light and hear a certain song. They came to associate the light and the song with snack time and eating. One day, shortly after they had finished lunch, she turned on the light and played the song. Doggone it, they started eating again.<sup>17</sup>

But we don't need lights and music to condition our children. We can powerfully do so with our words and behavior.

Take the Popeye project.<sup>18</sup> My Lab is trying to understand

why some children develop powerfully positive associations with healthy foods—such as broiled fish, broccoli, and even seaweed—that are not typically liked by most children. In beginning this work, we conducted separate interviews with children and with their parents. These interviews took an abrupt right turn a couple of weeks after they began.

We expected that the children with positive associations toward healthy foods had “inherited” them from their parents in the ways I’ve already discussed. While true in many cases, in other cases, the parents didn’t leave this to chance. These parents explicitly associated the foods with a positive benefit—such as “spinach makes you strong like Popeye.” Some children grew up learning to love fish because their parents told them it would make them smart. Others were told to eat carrots so they could see far distances, bananas so they would have strong bones, and fruit so they could keep cool in the summer. A couple of children (whose parents were originally from China) even grew up eating—and loving—seaweed because they were told it would prevent “stomach sickness” (or, as their parents later clarified, goiters.)<sup>19</sup> Hard to see that one as a big motivator to a four-year-old. The first day of school would be one to remember: “Hi, I’m Jennifer. What I did on my summer vacation was go to the beach and eat seaweed so I can be goiter-free.”

We’ve interviewed a couple hundred three- to five-year-olds in the Popeye Project so far, and we’ve collected a lot of insights related to healthy eating—and some surprises. At one day-care center outside of Syracuse, New York, a number of the children had uncharacteristically strong preferences for broccoli. This caught our attention because this bitter vegetable is not as kid-friendly as others (such as carrots and

peas). Many of the children told us they loved broccoli because their friends liked it or because it was “cool.” Most of these associations we could trace back to two little brothers. In their laddering interviews both said broccoli reminded them of dinosaur trees, and they liked it because of that. This didn’t make much sense, but because of the far-reaching impact it seemed to have on the rest of the day-care group, we interviewed their mother in person. We discovered she



had convinced them that broccoli looked like a dinosaur tree and when they ate broccoli, they could pretend they were “long-necked dinosaurs eating the dinosaur trees.” At the dinosaur-loving age of three and five, that was pretty cool, and it quickly became pretty cool to their friends. Brainwashing, conditioning, or just a smart parent? *Viva la brontosaurus!*

My Lab tried to leverage this with a vacation Bible School group a short time ago. The children could choose what they wanted from a lunch buffet, but each day we would rename foods to give them better associations. For instance, when we renamed peas “power peas,” the number of children taking them nearly doubled. The most embarrassing poetic license we took was with a V8-like vegetable juice. We ran out of it on the days we renamed it “Rainforest Smoothie.”

These associations can also work the other way around. Negative associations can be made with unhealthy foods. While there aren’t too many published studies on this, it’s an area rich with anecdotes.

Joyce is an interesting example. When I knew her as an adult, she never had cravings for cake and cookies. For 45

## Time-Honored Strategies for Dodging Vegetables

Today's kids stick to the same classic vegetable-avoidance strategies as their parents used. According to a 1999 Market Facts, Inc., study conducted for Green Giant, the three top strategies are:<sup>20</sup>

- 40%—Push vegetables around on plate so it looks like there's less
- 16%—Feed them to the dog
- 12%—Give them to a younger sibling or to a vegetable lover

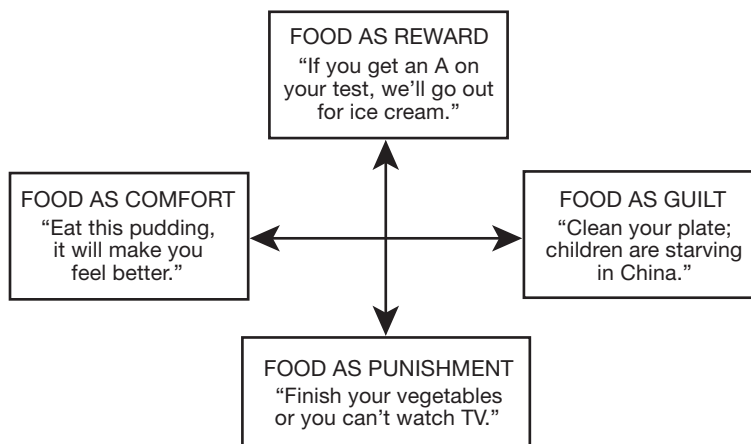
years, she's never had to fight the gravitational pull that these sweet snacks have on most of us. Why no apparent sweet tooth? It's almost a *Manchurian Candidate* brainwashing explanation. As a little girl, her mother repeatedly told her that eating sweet snacks between meals was what low-class people did.<sup>21</sup> Extreme, yes. Politically incorrect, yes. Yet because there were no sweet snacks available and because they had an (unmerited) stigma attached to them, Joyce never developed the taste for these foods that bedevils many of us.

## Setting Serving-Size Habits for Life

A fat-forming transformation in our eating habits takes place between the ages of three and five. You can give three-year-olds a lot of food, and they will simply eat until they are

no longer hungry. They are unaffected by serving size. By age five, however, they will pretty much eat whatever they're given. If they are given a lot, they'll eat a lot, and it will even influence their bite size.

### The Four Unhealthy Food-Tool Extremes



This has been vividly shown by Leann Birch at Penn State and Jennifer Fisher at the Baylor Medical School.<sup>22</sup> When they gave three- or five-year-old children either medium-size or large-size servings of macaroni and cheese, the three-year-olds ate the same amount regardless of what they were given. They ate until they were full, and then they stopped. The five-year-olds rose to the occasion and ate 26 percent more when given bigger servings. Almost exactly the same thing happens to adults. We let the size of a serving influence how much we eat.

Serving size is a problem at mealtime, but it's also a big

problem at snack time. What is a healthy-size snack? Children tend to think that a serving size is open-ended and up for negotiation—it is pretty much whatever food is available and whatever they can weasel out of their parents. If a candy bar comes in a two-ounce package, two ounces must be the correct serving. If the candy bar comes in a four-ounce package, four ounces must be the correct serving.

Suppose you make a peanut butter and jelly sandwich as a snack and give your child half of it. Is the serving size half the sandwich? Not if the other half of the sandwich is still sitting on the counter. At that point, a serving includes anything that's left that can be eaten. What happens if you buy raisins in bulk and give your child a quarter cup of them? If the big container is visible, you may face a campaign for more.

How do we adjust serving size to be more reasonable and less negotiable?

If you buy in bulk to save money, you can use the Baggie trick. Remember that none of us really seem to know the amount of a “correct” serving size. We typically look at whatever is wrapped or served and we assume that must be one serving. We can use this notion with our children by giving them their snacks not on a plate, but by putting them in a Baggie (or even in a small Tupperware container).

Like adults, children use external cues to determine whether they want more to eat. If they think more is available, they can easily think they're still hungry. For instance, in one of our pilot studies, we gave five-year-olds at a day-care center six mini-size cookies in either a Ziploc bag or on a plate. After they finished the cookies, we asked them if they thought there were any more. Children who were given cookies on a plate believed that there were more left in the

### The “Half-Plate Rule” of Balanced Meals

What is a balanced meal? Here’s an easy rule of thumb for meal planning. For lunch and dinner, half the plate should be vegetables and fruits and the other half should be protein and starch. There are variations on this theme (such as the Idaho Plate Method),<sup>23</sup> but if you remember this basic Half-Plate Rule, you won’t think that spaghetti and meatballs is a balanced meal (add a salad).

kitchen—and they wanted them. Children who had been given Baggies were more likely to believe that the cookies were all gone and that snack time was over.

#### ***Reengineering Strategy #8:***

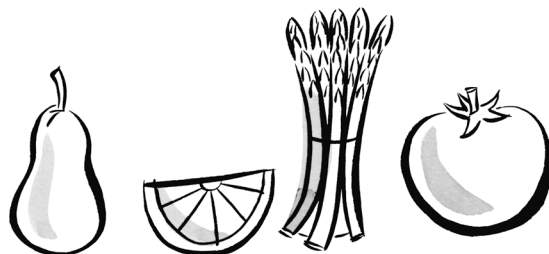
#### ***Crown Yourself as the Official Gatekeeper***

For better or worse, the nutritional gatekeeper controls around 72 percent of what your family eats. Children eat what tastes good and what’s convenient and what portion size they see as appropriate. You can use this to help create positive lifetime food patterns.

- **Be a good marketer.** Foods should be neither a punishment nor a reward. Healthy foods can, however, be fresh, crunchy, refreshing, and make you strong, smart, and maybe even “goiter-free.” (They might even be what long-necked dinosaurs ate.) Be convincing.



- **Offer variety.** Some of our early findings suggest that the more foods you expose your child to, the more nutritionally well-rounded he or she will become. Trying new recipes, new ingredients, ethnic foods, and different types of restaurants will all help mix it up and break the junk-food habit.
- **Use the Half-Plate Rule.** Around the house, the Half-Plate Rule can lead to more-balanced meals, and it can give your children the basic pattern for a healthy meal. Is steak and potatoes a balanced meal? No, it's only half of the plate—you still need a vegetable or salad for the other half.
- **Make serving sizes official.** Provide “official” servings by giving your children their snacks in sealed Baggies, in Tupperware, or in Saran Wrap. Don't let them see extra snacks. We found that any extra snacks on the counter increase the amount they see as a serving size. Clear off the counter at snack time.



12. In reality, the fact that a study comes out differently than planned is nothing new to us. In some cases, we make mistakes, like using tube-clogging chicken noodle soup in our Refillable Bowl study. In other cases, accidents happen, like when someone knocks a \$1,400 wireless scale off a table. In still other contexts, our study design is just not clever enough to give us a clear answer. That's why we do so many things a second and third time.

### 8. Nutritional Gatekeepers

1. See Brian Wansink and Keong-mi Lee, "Cooking Habits Provide a Key to 5 a Day Success," *Journal of the American Dietetic Association* 104:11 (November 2004): 1648–50.
2. See Brian Wansink, "Focus on Nutritional Gatekeepers and the 72% Solution," *Journal of the American Dietetic Association*, (September 2006), in press. Interestingly, we've repeated this with a lot of different people. Good cooks, non-cooks, young parents, empty nesters, grandmothers, single moms. They vary a little bit, but all end up estimating right around 72 percent.
3. See Brian Wansink, "Profiling Nutritional Gatekeepers: Three Methods for Differentiating Influential Cooks," *Food Quality and Preference* 14:4 (June 2003): 289–97.
4. See Brian Wansink and Randall Westgren, "Profiling Taste-Motivated Segments," *Appetite* 41:3 (December 2003): 323–27; Brian Wansink and JaeHak Cheong, "Taste Profiles that Correlate with Soy Consumption in Developing Countries," *Pakistan Journal of Nutrition* 1:6 (December 2002): 276–78; and Brian Wansink and Keong-mi Lee, "Cooking Habits Provide a Key to 5 a Day Success."
5. When the first Nutritional Gatekeeper study was published, our reviewers wanted us to focus on methodology, not percentages. See Brian Wansink, "Profiling Nutritional Gatekeepers: Three Methods for Differentiating Influential Cooks," *Food*

- Quality and Preference* 14:4 (June 2003): 289–97. The percentages appear in Brian Wansink, *Marketing Nutrition: Soy, Functional Foods, Biotechnology, and Obesity* (Champaign: University of Illinois Press, 2005).
6. Brian Wansink, Ganaël Bascoul, and Gary T. Chen, “The Sweet Tooth Hypothesis: How Fruit Consumption Relates to Snack Consumption,” *Appetite*, 47:1 (2006), 107–110.
  7. Picky eater at home? Take heart. Gentle persistence will be rewarded. One taste doesn’t change a person. Professor Leann Birch has shown that it can take up to 15 one-bite attempts, but most children eventually come around to liking more than just french fries, ice cream, and Jell-O.
  8. This longitudinal study involves control groups, panel diaries, and reliability checks, all of which are too boring for a sidebar. While anchovies (fresh, not cured) might be extreme, rest assured that my daughter, Audrey, isn’t the only one in the study who is eating and enjoying them. Also, it’s important to avoid foods that could cause choking, such as popcorn, nuts, potato chips, whole-kernel corn, berries, grapes, hot dogs, raw vegetables, raisins, and dry flake cereals. To keep abreast of the findings from this panel study, stay tuned to [www.MindlessEating.org](http://www.MindlessEating.org).
  9. See Julie A. Mennella and Gary K. Beauchamp, “The Early Development of Human Flavor Preferences” in ed. Elizabeth D. Capaldi, *Why We Eat What We Eat: The Psychology of Eating* (Washington, D.C.: American Psychological Association, 1996).
  10. This is a classic: Sibylle K. Escalona, “Feeding Disturbances in Very Young Children,” *American Journal of Orthopsychiatry* 15 (1945): 76–80.
  11. See T. M. Field, R. Woodson, R. Greenberg, and D. Cohen, “Discrimination and Imitation of Facial Expressions by Neonates,” *Science* 218 (1982): 179–81.
  12. Thanks to Alexandra Logue for this example from her inspiring book, *The Psychology of Eating and Drinking*, 3rd edition (New York: Brunner-Routledge, 2005).
  13. See F. Baeyens, D. Vansteenwegen, J. De Houwer, and G.

- Crombex, "Observational Conditioning of Food Valence in Humans," *Appetite* 27 (1996): 235–50.
14. Much of the most interesting research in this area is by Leann L. Birch. See "Generalization of a Modified Food Preference," *Child Development* 52 (1981): 755–58.
  15. See Kathleen M. Pike and Judith Rodin, "Mothers, Daughters, and Disordered Eating," *Journal of Abnormal Psychology*, 100 (1991): 198–204.
  16. Excerpted from the American Dietetic Association's *Dieting for Dummies* (Hoboken, NJ: Wiley & Sons, 2004).
  17. An excellent review of this research can be found in Alexandra Logue, *The Psychology of Eating and Drinking*, 3rd edition (New York: Brunner-Routledge, 2005).
  18. This new area of study is focusing on why some children develop positive views toward healthy foods, while others don't. The foundation for this is based on what we learned about how comfort foods are formed with adults, which is found in Brian Wansink and Cynthia Sangerman, "Engineering Comfort Foods," *American Demographics* (July 2000): 66–67.
  19. Both of these children, whose parents were originally from mainland China, were raised almost exclusively on Chinese food. Although iodine prevents thyroid conditions, this knowledge certainly wouldn't encourage increased seaweed consumption among four-year-olds.
  20. From Carolyn Wyman's very entertaining book, *Better Than Homemade* (Philadelphia: Quirk Books, 2004).
  21. In France, this is a common perception of snacking. Among the bourgeoisie, snacking between meals is still considered a behavior well-mannered people don't do.
  22. Many of these classic studies were conducted at the Child Behavior Labs, when both Birch and Fisher were at the University of Illinois at Urbana-Champaign. Leann L. Birch and Jennifer O. Fisher, "Mother's Child-Feeding Practices Influence Daughters' Eating and Weight," *American Journal of*

*Clinical Nutrition* 71 (2000): 1054–61; Leann L. Birch, Linda McPhee, B. C. Shoba, Lois Steinberg, and Ruth Krehbiel, “Clean Up Your Plate: Effects of Child Feeding Practices on the Conditioning of Meal Size,” *Learning and Motivation* 18 (1987): 301–17. See also Jennifer O. Fisher, Barbara J. Rolls, and Leann L. Birch, “Children’s Bite Size and Intake of an Entrée Are Greater with Large Portions Than with Age-Appropriate or Self-Selected Portions,” *American Journal of Clinical Nutrition* 77 (2003): 1164–70.

23. The Idaho Plate Method was adapted from a Swedish meal-planning method by a group of Idaho dietitians. It works by visualizing how much space each of the major food groups should occupy on one plate. Details of how it varies across meals can be found at [www.platemethod.com](http://www.platemethod.com). At lunch and dinner, food should be portioned out so that one-fourth of the plate is covered with a starchy food (such as pasta, rice, or potatoes), one-fourth should have a protein or a meat source, and half should be filled with low-calorie “nonstarchy” vegetables (not potatoes, corn, or peas). To the side of the plate, there should be either one cup of milk or yogurt or a half cup of pudding or ice cream, as well as one small piece of fruit. The approach is not only easy to use, but also works well when eating outside the home, such as in a restaurant or at a family gathering. See H. Rizer, M. Smith, K. Thomas, J. Harker, and M. Rich, “Practical Nutrition: The Idaho Plate Method,” *Practical Diabetology* 17 (1998): 42–45.

### 9. Fast-Food Fever

1. In 2005, the FDA charged the Keystone Group to develop a position paper for nutrition and labeling of away-from-home foods—fast food being a big piece of this. That’s how I met Eric Haviland and that’s the context in which he made this quote (December 14, 2005).