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FOOLED FOOD

by

How to trick yourself
into eating less

“We live with an embarrassment of food,” says Brian Wansink, professor of consumer behavior at Cornell University. “We’re always yards away from either a refrigerator or a restaurant or a vending machine. That wasn’t the case a few decades ago.”

And that means we’re constantly being tempted. “Every time we see food, we have to decide, ‘Do I want to eat that or not?’ We can say ‘No’ to the candy dish 27 times, but if it’s visible, by the 28th or 29th time, we’re saying ‘Maybe.’ And by the 30th time, we’re saying ‘What the heck...I deserve it.’”

Here’s how to recognize what’s making us overeat...and how to make it easier to eat less.

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FOOLED ^{by} FOOD

How to trick yourself into eating less



Brian Wansink is the John S. Dyson Professor of Marketing in the Applied Economics and Management Department at Cornell University in Ithaca, New York, where

he directs the Food and Brand Lab. He was the executive director of the U.S. Department of Agriculture's Center for Nutrition Policy and Promotion from 2007 to 2009, and is the author of *Mindless Eating—Why We Eat More Than We Think* (Bantam-Dell, 2006) and the forthcoming *Slim by Design: Mindless Eating Solutions for Everyday Life* (William-Morrow, 2013). Wansink spoke to *Nutrition Action's* Bonnie Liebman by phone from Ithaca.

Q: Why do people overeat?

A: We believe that people overeat because food tastes really good or because we're really hungry. In reality, those are two of the last things that influence how much people eat. We're a nation of mindless eaters. If there's nothing to stop us from grabbing something to eat, we keep doing it until something tells us to stop.

Q: How do serving or package sizes affect how much we eat?

A: If you want to be skinny, you have to think skinny, not wide. We're not used to looking at width the same way we're used to looking at height. We pay more attention to height. So you're in greater danger of overeating from a wide bowl than from a taller, skinnier bowl or glass.

Q: Why?

A: In nature, something that's tall is more of a threat than something that's wide. Most animals look at height as an indication of how threatening a predator is. We don't see wide things as a threat.

Q: So we don't notice that something that's twice as wide holds twice as much?

A: Right. If you let children choose something in a tall and skinny container versus a wide and fat container—even if the wide container holds a lot more candy or potato chips—they always go for the tall, skinny container because they think it's got more.

Even professional bartenders in Philadelphia poured 31 percent more alcohol into short, wide glasses than into tall, skinny glasses. We see the distance from bottom to top, not side to side.

Q: So companies shrink width, not height, when they make packages smaller?

A: Yes. If they're going to shrink the size of a package, the best thing to do is to leave the height alone and shrink the width or diameter, because people pay more attention to height.

Q: Are we especially bad at detecting an increase in three dimensions?

A: Yes. People underestimate how much

more a package holds when all three of its dimensions—its height, width, and depth—increase. It would be much more obvious if a package only increased in one dimension, but that rarely happens.

If a large popcorn were, say, twice as tall as a small, we'd see it. But if it's a little bigger top to bottom, side to side, and front to back, you may not see that it holds twice as much.

Q: Do we eat more when we use larger bowls and spoons?

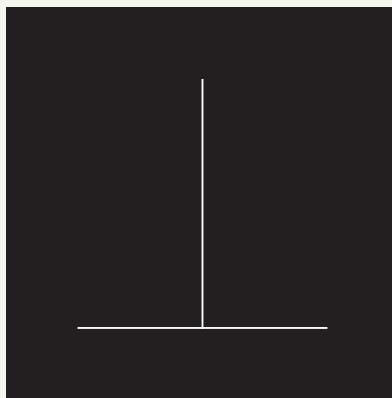
A: Yes. Kids as young as four, if you give them a larger bowl, they serve themselves about 28 percent more of, say, breakfast cereal.

Even experts are fooled. We had an ice cream social and invited professors of nutrition science. We gave them larger bowls and changed the size of the scoop from 2 to 3 ounces. When people had the larger bowl and scoop, they ate 53 percent more ice cream.

These are people who should know better, but it makes the point: these cues fool us all, so it's much easier to get them working for us—using smaller bowls, plates, and spoons—than thinking we can resist them with our willpower.

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Wow, that's Tall!



To most people, the vertical white line looks longer than the horizontal white line. In fact, both are the same length.



Likewise, the St. Louis Gateway Arch is as wide as it is tall, though few people see it that way. That's because we notice height more clearly than width.

I'll take a Medium...



People tend to pick a “medium” size. Since the smallest Starbucks cup (an 8 oz. *short*) isn't on the menu board, the (16 oz.) *grande* is the medium. If Starbucks put the short back on the menu and took the (20 oz.) *venti* off, the (12 oz.) *tall* would be the new medium.

Q: Does the size of serving bowls also trick us?

A: Yes. We found that adults served themselves about 50 percent more snack mix—nuts, pretzels, and chips—from big bowls than from small bowls.

Q: Do we eat less when foods are labeled as small?

A: In fact, it's the opposite. Let's say you have two packages of cookies that are each, say, 20 ounces. One is labeled “small” and the other “medium.”

The person who gets the bag labeled “small” will say, “Gee, it's such a small amount, I can eat a lot. The bag says small so I'm not overindulging.” But if the same bag is called “medium” or “large,” people eat less.

My colleague David Just and I call this right-sizing. We've gone into cafeterias and said, “Here's a great way for you to save money on food costs and get people to eat less.” We recommend that they change the name of a “regular” portion to a “large.” It makes people more likely to take less and eat less, because they think eating a large portion is overindulging.

Q: Don't people prefer large sizes?

A: No. Most people choose medium sizes. We call it the Golden Mean. If McDonald's wanted people to buy more 12 oz. soft drinks, for example, calling it a “small” wouldn't help. Introducing an 8 oz. “small” would be the way to go. People would drift down to smaller sizes because they tend to shy away from extreme sizes on either end.

Q: Don't people prefer a larger size for value?

A: No. Not everyone wants a 32 oz. drink. We found that even when all sizes of a drink cost the same, a little over 60 percent got either a “medium” or “small,” and most get a “medium.” We expect people to take everything they can get for free, but they don't. They know how much they want.

Q: Can we apply those results at home?

A: Yes. At my home and in our lab, we have 6 oz. juice glasses. Nobody uses them, except my youngest daughter sometimes. But even if you never use the 6 oz. glasses, all of a sudden the normal 8 oz. glass seems like the right size, and the 16 or 20 oz. glasses don't seem appropriate. We even bought some small antique wine glasses.

Q: Can pictures on boxes influence what people eat?

A: Yes. We showed college students a 3-D mockup of packages with pictures of either just a few crackers or many crackers on the front. Then we gave them small bags, each with 30 crackers inside, and told them they could eat some while they filled out a survey.

The students who saw the boxes with more crackers on the front ate more. And when we asked how many crackers are in one serving, they guessed a higher number.

Q: What else tricks people?

A: We gave people ordinary foods that were either labeled “organic” or not. When they thought the foods were organic, they rated the calories about 20 percent lower.

It's a health halo, and it also follows foods that say “pesticide free” or “locally grown.” Almost any food with a healthful identifier makes people think the calories are lower, even if the claim has nothing to do with calories.

Q: Do people underestimate the calories in restaurant meals?

A: Yes. When we ask, “How many calories do you think you're having in that meal?” they usually under-guess by about 25 percent. But if you break things down by asking about each item in the meal—how many calories are in that sandwich?

See More, Eat More



People ate more crackers after seeing a mockup of a box showing more crackers than after seeing a mockup of the same box showing fewer crackers.

Nobody uses them, but they make the medium size glasses look hugely generous.

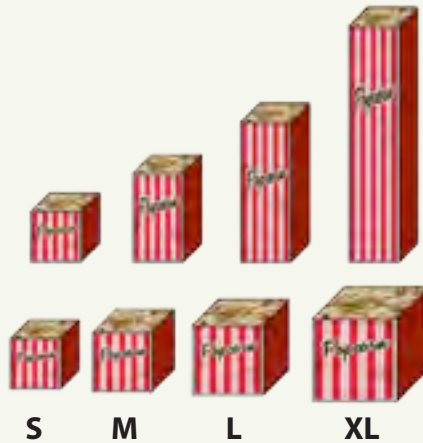
Q: Do people get clues about how much to eat from others?

A: Yes. Nobody knows the right amount to serve themselves, so we look for bench-

marks or norms around us. One such norm could be how much the person next to you serves herself.

We brought young men and women into buffet lines and tracked how much they took of different foods compared to what the people in front of them took. When the woman in front took, say, one cup more food than average, the woman behind would behave similarly. This is strongest for women, but has no impact on guys. We guys basically seem to eat like pigs.

3-D Masks the Increase



Each box is about 50 percent bigger than the box to its left. That's easier to see in the top row, because each box increases in only one dimension (height). It's harder to see in the bottom row, because each box increases in three dimensions (height, width, and depth).

Source: Chandon and Ordabayeva, *J. Market. Res.* 46: 739, 2009.

How many in those fries? How many in that drink?—people are much more accurate.

So if you're trying to eyeball foods and have no calorie guide with you, don't glance at your meal and guess. Look at the individual items and say, "Okay, this piece of bread has about 80 calories, this chicken probably has 350," and so on. You'll be much closer if you look at individual items and total them up.

Q: Why is that more accurate?

A: The higher the calories, the more you underestimate. For example, overweight people tend to grossly underestimate the calories in their meals. As a result, physicians and dietitians would tell them, "You're either lying or you're clueless. Look how far off you are."

But my colleague Pierre Chandon and I found that it's not body size that determines bias. It's meal size. Whether you're the skinniest or heaviest person on the planet, the bigger the meal, the more you underestimate how much you eat.

When meals are big, everyone—regardless of body size—underestimates by about 50 percent how much they eat. It's just that overweight people eat more big meals. This insight has changed the way many doctors and dietitians now advise heavier patients about weight loss. It's made them less accusatory.

Q: How does price influence how much people buy?

A: It's partly based on how much money you have. For instance, if you're below the poverty line, you have to buy the smaller items because you're watching your budget.

But if you're above the poverty line, you can afford larger items. That's where you get the Costco or Sam's Club effect. You buy large quantities because you're saving money.

As I mentioned in my book *Mindless Eating*, our studies show that when items like

juice boxes or granola bars or small bags of chips are individually packed, you end up eating them more frequently—seven times a week instead of four, on average. But if you buy a larger package of cereal or ground beef or pasta or pretzels, you eat more every time you open it.

Q: So should we avoid big packages?

A: No. Just divide the big packages into smaller bags and put them somewhere you don't see them all the time. If they're in smaller bags to begin with, put them

out of the way, like in a lower cupboard or the basement.

The mistake that most people make is that they leave them somewhere visible. So every time they see the chips, they think, "Do I want some chips? Sure!"

Q: Should we also make healthy foods more visible?

A: Yes. We found that when people put cut-up fruit or vegetables in a big bowl in the center shelf of their fridge, they ate 29 percent more.

Q: What else can help people eat healthier snacks?

A: We gave 200 third- to sixth-graders all they could eat of chips or a combination of cut-up vegetables and round Babybel cheeses while they watched TV.

Kids given chips ate 620 calories' worth, but kids given cheese and vegetables ate only 170 calories' worth. The difference was even more pronounced with overweight kids, because they ate more chips than the others.

Part of what's going on is that the cheese and vegetables take longer to chew. And the combination was more satisfying because it's fun to eat and there's more variety in the creamy cheese and the crunchy vegetables.

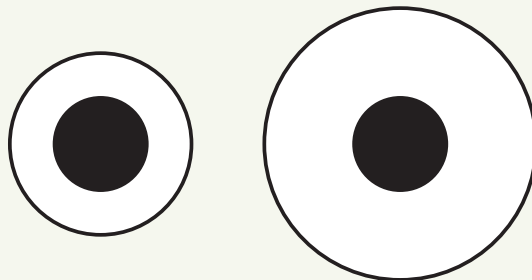
Q: Does that also work with adults?

A: With women, it's similar. They eat about half the calories that they would have otherwise eaten of chips. And they feel equally satisfied afterwards. We have them watch TV for an hour and a half after they eat. And when they're done, they feel full, happy, and not guilty. We've not tested men, but my guess is that it would be similar.

Q: What else can prompt us to eat healthier foods?

A: We did a study on what we called trigger foods. We found that the first food that people saw at a buffet influenced what they took even if they didn't take that food.

It's an Illusion



The dark circle on the right appears smaller, even though both dark circles are the same diameter. This optical illusion helps explain why people may eat more from large plates. They may think they're getting less food.

If they saw a bowl of fruit first, they were more likely to take more fruit than eggs and bacon. If they saw eggs and bacon first, they took more of that than the fruit.

You can do the same at home. Make sure that the first food you see and serve is the healthiest food on the table. Serve the vegetables first, not with or after the pasta.

Q: What else makes people happy with fewer calories?

A: We wondered how much of a snack it would take for people to feel satisfied. Would 90 percent of that brownie or candy bar be enough? How about 80 percent?

So we gave people either a large or small portion of chips, apple pie, and chocolate. The small portions averaged only 20 percent of the food in the large portions. People ate about 135 calories of the small portions and about 235 calories of the large portions, but 15 minutes later, they rated themselves as equally satisfied.

Q: Why?

A: We think that once you've swallowed something, there's not much memory of how much you ate. The residual taste in your mouth lasts for a while. So 15 minutes later, you remember that the food tasted good. But you don't remember how many bites you had.

Some people say that it helps them a great deal with afternoon cravings, as long as they wait about 10 minutes after they eat. We suggest that people have just a bite and then go do a quick errand or walk to the restroom. Do something that distracts you for 10 minutes, and you'll be fine. If you're really, really hungry, it doesn't work, but most of us don't snack because we're really, really hungry.

Q: Any tips for eating in restaurants?

A: A good friend, Koert van Ittersum, and I did this experiment in a Hardee's that was changing to a Carl's Jr. restaurant in Champaign, Illinois. We built a separate section, and we made it darker with

offset lighting and quieter by piping in Miles Davis music. "Kind of Blue" was playing.

People who came into the restaurant ordered their meal at the counter, and

use candlelight instead of fluorescent light. The more relaxed the environment, the more relaxed you are. You eat more slowly, you like the food more, and you end up eating less.

How Much Smaller?



The Edy's carton (1.5 quarts) looks larger—but not 1½ times larger—than the Häagen-Dazs carton (1 quart). That's because both cartons are about the same height.

then we randomly put them in either the soft light, soft music room or the normal place with rock music, bright lights, and hard surfaces.

They all ate the same food, because they ordered ahead of time. But people who ate in the soft light ate 18 percent fewer calories, and they rated the food and the restaurant as more appealing.

Q: Why?

A: They spent about nine minutes longer in the restaurant. They were more relaxed and ate more slowly. So two things may have happened. Their satiety cues caught up, and they may have said, "I guess I'm full." The second thing is that french fries taste great when they're hot, but not so great when they're cold. As the food cooled off, people may have said, "I've had enough."

Q: Would that work at home?

A: Yes. At home, you can turn on some quiet music and turn the TV down and

Q: So should you try to sit in dark corners at restaurants?

A: Only in fast-food restaurants. In sit-down restaurants, it's the reverse because you spend so long there. I have a lot of neat diagrams in my new book, *Slim by Design*, that show where the fat seats are in different restaurants, movie theatres, and such.

In sit-down restaurants, thinner people sit near windows and in lighter, well-traveled parts of the restaurant, while heavier people sit near the TV, near the bar, and in darker corners. They spend more time there, which may explain why they're more likely to end up overeating.

Q: Do people eat worse when they're under stress?

A: That's what we found with college students. It doesn't matter if it's spring or fall semester. People start out with great eating

habits at the beginning of the school year and after January 1. And slowly, the healthy stuff they buy starts dropping and the unhealthy food goes up. And by the end of the semester, it's a complete reversal.

Q: Is that because of final exams?

A: We excluded midterms and finals and test periods. But even when we exclude those stressful days, there's only so much the students can take. They're getting overloaded with projects and papers, and they say, "What the heck. I can't eat salad with dressing on the side any longer. Bring on the Cheetos."

So we started working with dining services at Cornell. As the semester goes on, they start making a higher percentage of healthy foods, and they put them in more obvious places—more front-and-center.

Q: Is that just true for students?

A: No. We usually assume that people gain weight over the holidays because

there's so much food available, so many parties, so much variety, and all your favorite foods are out. But I'm increasingly convinced that some of the weight gain is due to the stress of having family visit, having to buy presents, having to finish up projects.

So we should all be aware that we may be coming under the influence of stress eating, not just having a jolly old holiday time.

Q: Should people keep food off their desk at work?

A: Yes. We found that if people have a bowl of chocolate sitting on their desk, they eat about 125 more calories a day than if the chocolate is just six feet away.

Q: Have you studied what influences people at the grocery store?

A: It's often said that you'll buy more if

stir-frying vegetables with a chicken breast is going to take too long.

So they buy more breakfast cereals, frozen food, Hamburger Helper, candy, and crackers, and less fruit, vegetables, and healthy dairy.

Q: What's your new book about?

A: It's called *Slim by Design: Mindless Eating Solutions for Everyday Life*, and the idea is that about 80 percent of the food we purchase or eat is within an average of three miles from where we live. That's your food radius.

You can look at the five places in your food radius that cause you to overeat—your home, where you work, the grocery store where you shop at most often, your two favorite restaurants, and where your kids go to school. Small changes in each of those places can help you become slim by design.

We've also just started the Slim by Design Global Registry, which registers people from around the world who have been slim all their lives. The URL is SlimByDesign.org.

By studying the habits, patterns, tips, and attitudes of these

people, our goal is to help others learn some of the secrets and insights they have used to stay slim.

We're still working on the Web site, but it has already generated a ton of interest from people who want to get or stay slim. 🍌

Smaller and Slimmer



How much less Coke is in the new mini-can (right)? The can holds about 60 percent of what's in the standard 12 oz. can (left). The mini-can would look smaller if it weren't as tall.

you go shopping when you're hungry. We had people go shopping after an 18-hour fast, and we also had people go shopping before or after lunch.

We found that people don't buy more or spend more if they're hungry, but they buy fewer healthy foods and more convenient, highly processed food that they can eat in a second. Cutting up and

Fool Me Once...

Here's a quick summary of some of Brian Wansink's findings from earlier studies:

- **Big servings.** People who were given a big bucket of (stale) popcorn ate 34 percent more than people who got a smaller bucket.
- **Fancy names.** Cafeteria sales jumped by 27 percent when foods were given descriptive names like "Succulent Italian Seafood Filet" (instead of "Seafood Filet") or "Belgian Black Forest Cake" (instead of "Chocolate Cake").
- **More variety, more calories.** People ate about 40 percent more if they had a choice of candy that came in six different colors than if the candy came in four colors.
- **Plateware matters.** When people were served a brownie on a Wedgwood china plate, they rated its taste higher than when the brownie was served on a paper plate or napkin.
- **Food on the table.** Men ate about 29 percent more—and women about 10 percent more—if the serving dish was left on the table (rather than the counter).
- **Who sets the pace?** People ate more when they sat at a table with someone who ate quickly than with someone who ate slowly.
- **How much did I eat?** People ate fewer chicken wings if they could see the bones of the wings they'd already eaten than if the bones were whisked away.
- **Healthy restaurant?** People who believed that Subway meals were healthy underestimated the calories in Subway meals more than they underestimated the calories in McDonald's meals.
- **Health halo.** If a bag of M&M's or trail mix was labeled "low-fat," people ate more than if the label didn't say "low-fat."
- **Exercise rewards.** People ate more at dinner—and especially more dessert—after they went on a "scenic walk" than after they went on an (identical) "exercise" walk.
- **Cover up.** Covering the clear window of an ice cream freezer with butcher paper led people to take 30 percent less ice cream from it.