

Solving the Portion Puzzle

TUFTS PSYCHOLOGY professor Robin Kanarek, PhD, laughs at the memory of a visiting family from Finland's encounter with American portion sizes. "They went to this steakhouse out on Route 1 in Boston," she recalls, "and when the first person's steak order arrived, it was so big that they assumed the steak was meant to feed the entire family."

It's not just steak where, as the saying goes, our eyes have gotten bigger than our stomachs, says Kanarek, who studies the psychology of appetite and eating. The National Heart, Lung and Blood Institute (NHLBI) has created "Portion Distortion" quizzes online <hp2010.nhlbi.nih.gov/portion/keep.htm> to dramatize the ballooning of portion sizes. Twenty years ago, according to the NHLBI, a typical cheeseburger had 330 calories; today, it's 590. The French fries you ordered on the side 20 years ago were a 2.4-ounce handful totaling 210 calories; today the standard order is a heaping 6.9 ounces, packing 610 calories.

The portion explosion has "super-sized" foods beyond burger joints. A blueberry muffin that weighed 1.5 ounces, 210 calories, two decades ago now tips the scales at 5 ounces, 500 calories. We're washing it down with a cup of coffee that used to be 8 ounces, 45 calories with milk and sugar, but now averages 16 ounces and 350 calories, with milk and "mocha" syrup. Bagels have grown from three inches in diameter, 140 calories, to six-inch behemoths with 350 calories.

The NHLBI distinguishes between "portion"—the amount of a food you choose to eat (or that a restaurant or food packager thinks you should eat)—and "serving," used to describe the recommended amount of food. One "serving" of meat, fish or poultry is 3 ounces—about the size of a deck of cards. But most US mealtimes mean more like 8 ounces of meat—a portion that's nearly three servings.

In 2002, New York University researchers writing in the *American Journal of Public Health* compared

common food portions with the serving sizes then recommended by the US Department of Agriculture (USDA) and with US Food and Drug Administration (FDA) standard servings for food labeling. They found that commonly available portions exceeded—sometimes greatly—both serving standards for every food they looked at except sliced white bread. Compared to USDA recommendations:

- Cookie portions exceeded recommended serving size by 700%
- Pasta portions were 480% bigger
- Muffin portions were 333% bigger
- Steaks were 224% bigger
- Bagels were 195% bigger.

The NYU researchers, Lisa Young, PhD, RD, and Marion Nestle, PhD, MPH, added, "In contrast to practices that were common just 15 to 25 years ago, food companies now use larger sizes as selling points (e.g. Double

Gulp, Supersize).... Restaurants are using larger dinner plates, bakers are selling larger muffin tins, pizzerias are using larger pans, and fast-food companies are using larger drink and French fry containers."

Kanarek agrees that restaurants and food packagers are key to the problem—and must be part of the solution. "Portion size is an important problem in the obesity epidemic," she says. "Food companies could really help by reining in container sizes. If you go to the movie theater, for example, the size of popcorn containers is absurd! Or look at food labels: Most people assume that a snack-sized package of potato chips is one serving, but if you study the label you'll see it's really two or three servings."

The NYU team compared editions of classic cookbooks such as *Joy of Cooking*, finding that new recipes for cookies and desserts specify fewer servings—meaning larger portion sizes. Even the cup holders in automobiles have gotten bigger in recent years, to accommodate supersized drinks.

"Our data suggest that the trend toward larger portion sizes began in the 1970s," Young and Nestle wrote. "Portion sizes increased sharply in the 1980s and have continued to increase."

Another analysis, at the University of North Carolina, published in 2003 in the *Journal of the American Medical Association*, found that between 1977 and 1996, "food portion sizes increased both inside and outside the home for all categories except pizza."

Caveman Consumption

IT'S EASY TO SEE why food companies and restaurants might want to sell us more food—but why do we keep eating more, despite the well-publicized negative effects of obesity on our health?

Part of the explanation goes back to humans' origins as **hunter-gatherers**, says Kanarek. "We evolved in a culture where food was not abundant," she explains. "Humans adapted to eat whatever food was available. Unfortunately, now that there is so much food available, that's become a negative adaptation. A thousand years ago, a hunter-gatherer would kill a lion, eat

What Does "1 Serving" Look Like?

Grain Products

- 1 cup of cereal flakes = fist
- 1 pancake = compact disc
- 1/2 cup of cooked rice, pasta or potato = 1/2 baseball
- 1 slice of bread = cassette tape
- 1 piece of cornbread = bar of soap

Vegetables and Fruit

- 1 cup of salad greens = baseball
- 1 baked potato = fist
- 1 medium fruit = baseball
- 1/2 cup of fresh fruit = 1/2 baseball
- 1/4 cup of raisins = large egg

Dairy and Cheese

- 1 1/2 oz. cheese = 4 stacked dice or 2 cheese slices
- 1/2 cup of ice cream = 1/2 baseball

Fats

- 1 tsp. margarine or spreads = 1 dice

Meat and Alternatives

- 3 oz. meat, fish or poultry = deck of cards
- 3 oz. grilled/baked fish = checkbook
- 2 Tbsp. peanut butter = ping pong ball

Source: National Heart, Lung and Blood Institute

and not stop until it was all gone. Now, we go to the grocery store. Our bodies haven't caught up to the environment; we have to make a conscious effort."

That effort involves not just a handful of choices, but more than 200 food-related decisions daily, according to Brian Wansink, PhD, director of the Cornell University Food and Brand Lab and author of *Mindless Eating: Why We Eat More Than We Think*. Most people don't overeat because of hunger, Wansink maintains, but because of influences ranging from friends and family to packaging and plate presentation. His research suggests that people can eat 20% more—or 20% less—without even noticing, emphasizing the importance of more "mindful" eating.

When Wansink rigged a "bottomless" soup bowl that refilled as people ate, for example, those eating from the bottomless bowls thought they'd eaten the same amount as people with regular bowls. They actually consumed 73% more soup. In another experiment, people drank 25-30% more from short, wide tumblers than from tall, skinny glasses—which look fuller with the same amount of beverage.

In another test of perceptual cues, Wansink and Barbara Kahn, PhD, MBA, a professor of marketing at the University of Pennsylvania's Wharton School, found that "perceived variety makes people eat more." They offered people six different jelly bean flavors. When the jelly beans were offered in a scrambled assortment with more apparent variety, people ate more candy than when the jelly beans were offered in an organized assortment.

Another Penn researcher, Andrew B. Geier, a doctoral candidate in experimental psychology, has investigated what he calls "unit bias." It's sort of like the classic "clean plate club" your mom probably urged you to "join": "People eat the entirety of what you serve them, and the amount that people consume is largely dictated by environmental cues, not internal cues" like hunger, Geier says. In one test, he compared how much people ate when served a slice of cheesecake with a fork stuck in the top—suggesting this slice was a single unit of cake—versus when

Give Your Plate a Makeover

Being smart about portions isn't just a matter of calories. Changing the proportion of meat to vegetables on your plate, for example, also reduces your intake of saturated fat and ups your consumption of healthy nutrients. In *The New American Plate Cookbook* (University of California Press, \$24.95), the American Institute for Cancer Research <www.aicr.org> lays out a plan for transitioning from the traditional American plate—big hunk of meat, glob of potato and tiny dollop of vegetables—to healthier portions. Start by making more interesting and flavorful vegetable dishes (not just microwaving some frozen peas) and heaping those on your plate first. You'll have less room left for meat. Next, step up to preparing *two* vegetable dishes for every meal, varying in appearance and taste; whole grains can also help occupy this healthy two-thirds of your reportioned plate. Another strategy is to rely more on one-pot meals in which ingredients other than meat dominate. Over time, your "new American plate" will become the norm and you'll start to wonder how you ever ate any other way!

the cake was served with a knife and fork on the side. Those who could cut the slice into smaller units ate much less than those presented with a fork in the top, like at a birthday party.

Says Kanarek, "Our ethic is to finish whatever is put in front of you. When I was growing up, parents talked about the 'starving children in Armenia.' We're still programmed to clean our plate."

According to the American Institute for Cancer Research, 67% of Americans usually eat everything or almost everything on their plates.

Even when we do exercise healthy self-control at mealtime, there's still a tendency to what Wansink calls "calorie compensation." If you were "good" at lunch, you figure it's OK to splurge at dinner. The restaurant chain TGI Friday's, which has made headlines by

introducing a "right portion, right price" menu, appeals to this mindset by nonetheless pointing out, "Smaller portions allow more room for dessert."

Quitting the Clean Plate Club

SO, BESIDES iron willpower, how can you counter the trend toward ever-larger portion sizes? At home, consider switching to smaller plates and bowls, Kanarek suggests. That's backed up by another Wansink study, in which people perceived they were eating more when served on a smaller dish; as dish size grew, so did the amount subjects ate. In one experiment, subjects using a 34-ounce bowl ate an average of 31% more ice cream (137 more calories) than those scooping into a bowl half that size.

You could even try a specially designed plate or bowl, calibrated to appropriate portions. A recent study of 130 diabetes patients, published in the *Archives of Internal Medicine*, found that those using The Diet Plate <www.thedietplate.us> lost significantly more weight over six months than did a control group.

The Centers for Disease Control (CDC) recommends serving food on individual plates, rather than "family style," to minimize the temptation for extra helpings. If you're snacking in front of the TV, dole out the amount you plan to eat into a bowl instead of bringing the whole snack package into the TV room.

Some diet experts suggest getting a food scale to weigh your portions, but Kanarek is skeptical. "That works while you're on a diet like Weight Watchers, but most people stick with it for several months, then the scale goes in the closet."

When eating out, Kanarek says, "It seems obvious, but if there are two sizes, choose the smaller size." You can try splitting a large entree or taking home a "to-go" box. To fortify your willpower, the CDC suggests asking for a take-home container before you start eating; wrap up half your meal for later as soon as it's served.

And no, having to fend for yourself by walking down a buffet line does *not* qualify you as a "hunter-gatherer." ♦