

Super Size America – How Our Way Of Life Is Killing Us

U.S. News & World Report, August 19, 2002

Cover Story 8/19/02

A fat nation

America's 'supersize' diet is fattier and sweeter—and deadlier

BY AMANDA SPAKE

Pretty, dark-haired Katie Young has been successful at most things. She's a nearly straight-A student, a big hitter on her softball team, and a good dancer. But like so many Americans—kids and adults alike—the New Orleans 10-year-old struggles with one thing: keeping her weight under control.

When Katie started day camp in June, she discovered a snack bar where she could buy pizza, hot dogs, candy, ice cream, chips, soft drinks, and more. "Katie went nuts," says her mother, Judy Young. In the first two weeks of camp, Katie stole nearly \$40 from her mother's purse for snack foods. "I bought a lot of pizza," Katie says. "It's good, of course, because it's from Pizza Hut. And I bought candy and everything. I didn't feel good seeing the other kids eat those things. I wanted them too."

Of course she did. Katie was acting on a basic driving force of human biology: Eat whenever food is available and eat as much of it as possible. Throughout most of human history, food was scarce, and getting ahold of it required a great deal of physical energy. Those who ate as many calories as they could were protected against famine and had the energy to reproduce. "As a result, humans are hard-wired to prefer rich diets, high in fat, sugar, and variety," says Kelly Brownell, director of the Yale Center for Eating and Weight Disorders. The problem today, Brownell adds, is that there's "a complete mismatch" between biology and the environment. Or as University of Colorado nutrition researcher James Hill puts it, "Our physiology tells us to eat whenever food is available. And now, food is always available."

National girth. America has become a fat nation. More than 61 percent of adults are overweight, and 27 percent of them—50 million people—are obese, according to a U.S. surgeon general's report released last December. In the next decade, weight-related illnesses threaten to overwhelm the healthcare system. New evidence from the Framingham Heart Study shows that obesity doubles the risk of heart failure in women. A man with 22 extra pounds has a 75 percent greater chance of having a heart attack than one at healthy weight. Gaining just 11 to 18 pounds doubles the risk of developing Type II diabetes—an illness that has increased by nearly 50 percent in only the past decade.

Weight is also taking a heavy toll on the nation's children. The percentage of 6- to 11-year-olds who are overweight has nearly doubled in two decades, and for

adolescents the percentage has tripled. Pediatricians are treating conditions rarely before diagnosed in young people. In a recent study of 813 overweight Louisiana schoolchildren, for example, 58 percent had at least one heart-disease risk factor, such as high blood pressure, cholesterol, or insulin levels. Four percent of adolescents now have "adult onset" (or Type II) diabetes, and in some clinics teens represent half of all new cases.

Too much food. Obesity has been linked to everything from the decline of the family dinner to the popularity of computers and video games to supersize portions of fast food. But it all comes down to a simple calculation, says Colorado's Hill: "The primary reason America is fat is that we eat too much compared to our activity level."

Over the past 50 years, as technology has reduced movement in daily life, the American diet has also changed, paralleling a revolution in food production. "The energy intensity of the human diet is going up," says Barry Popkin, a professor of nutrition at the University of North Carolina-Chapel Hill. Human beings are eating more calories per bite than their ancestors ate. "The most common changes," Popkin explains, "are the added sugar in processed food and the added fat."

Before World War II, food was grown on small family farms and sold to local stores. Changes in farming practices resulted in an abundance of food, and innovations in processing, packaging, preservation, and refrigeration allowed products to be transported across continents. Companies made use of the new technology to produce a previously unimagined variety of processed and packaged foods and beverages. Today, a dozen or so food giants—so-called Big Food—produce, distribute, and sell much of what the world eats.

Without question the food industry has delivered something unique in human history: a dependable, low-cost food supply. "But now, food is so overproduced in the U.S. that there are 3,800 calories per person per day, and we only need about half of that," says Marion Nestle, chair of the Department of Nutrition and Food Studies at New York University. Judy Putnam, who studies food and nutritional patterns for the U.S. Department of Agriculture, agrees. USDA food-supply data show a 500-calorie-per-person daily increase between 1984 and 2000. Similarly, the USDA's dietary intake surveys show a 236-calorie-per-person-per-day increase between 1987 and 1995. Even that smaller estimate translates into an average 24-pound weight gain per person every year. Putnam figures that about 39 percent of the increase comes from refined grains, 32 percent from added fats, and 24 percent from more sugar.

Hard to believe, but Americans consume the equivalent of 20 to 33 teaspoons of sugar per person per day. About 30 percent of it is in soft drinks, but sugar is also the No. 1 additive. It is found in a variety of foods, says Putnam: "It turns up in some unlikely places, such as pizza, bread, hot dogs, soup, crackers, spaghetti

sauce, lunchmeat, canned vegetables, fruit drinks, flavored yogurt, ketchup, salad dressing, and mayonnaise."

Greater use of prepared foods may have increased calories, but so has another major cultural change: eating out. Restaurant meals generally contain more fat, including more saturated fat, less fiber, more cholesterol, and more calories than homemade meals. In 1977-78, Americans ate about 19 percent of their total calories out. By 1995, they were eating 34 percent of their calories away from home. "The size of this increase is enormous," says UNC's Popkin, who analyzes the USDA's dietary surveys. "There has been a more than doubling of the calories consumed at restaurants and fast-food establishments over the past two decades."

That's in part because when people do eat out, they eat more—one result of the supersizing trend that's sweeping the market. "The food is the least of the cost of a food product. Labor, packaging, marketing cost more," says NYU's Nestle. "So, it's very profitable to make larger portions." When McDonald's opened, its original burger, fries, and 12-ounce Coke provided 590 calories. Today, a supersize Extra Value Meal with a Quarter Pounder With Cheese, supersize fries, and a supersize drink is 1,550 calories. An order of movie theater popcorn was about 3 cups in 1957. Now, the typical medium theater popcorn is 16 cups and 900 calories. A 7-Eleven 64-ounce Double Gulp has nearly 800 calories, 10 times as many as the original 6.5-ounce bottles of Coca-Cola.

According to the Center for Science in the Public Interest, many fast-food chains encourage customers to order "supersize" items, pointing out that they get more value for their dollar. At the Cinnabon pastry chain, for example, a 3-ounce Minibon costs about \$2, but for only about 50 cents more the customer can feast on an 8-ounce Cinnabon. What's not advertised, however, is the fact that this bargain raises caloric intake from 300 to 670. The trend in "value marketing" also means that chain restaurants combine foods into a meal that often costs less than buying each item separately. For example, the Center for Science in the Public Interest reports that at McDonald's, a Quarter Pounder With Cheese, medium fries, and medium soft drink purchased separately cost an average of \$5.03. But an Extra Value Meal with the same items costs just \$3.74. There is also the option of making the "value" meal even larger. At Wendy's, the Classic Double With Cheese Old-Fashioned Combo Meal costs \$4.89 and has 1,360 calories. For only 39 cents more, one can "biggie size" the meal and eat 1,540 calories.

And when that supersize portion is served to your table or car window, says Nestle, "there is something about our psychology that makes us eat more if it's put in front of us." Pennsylvania State University nutrition professor Barbara Rolls demonstrated precisely this phenomenon. In her study, lean young men, known to regulate food intake well, were given different portions of macaroni and cheese for lunch on different days. When served 16 ounces, they ate 10, but when given

the 25-ounce "jumbo lunch," they ate 15 ounces, 50 percent more than what had satisfied them previously.

Not only are Americans eating more at meals, they're eating more meals. Snacking has increased so much, says UNC's Popkin, "that children eat about five meals now and adults eat 4½. A quarter of children's calories now come from snacks, and the typical snack is no longer an apple. Snacks are often potato chips or tortilla chips." Two decades ago, snacks made up only 11.3 percent of the diet. By 1996, that figure was 17.7 percent. Consumption of salty snack foods has doubled in the past 20 years, according to a UNC study.

Courted by food. Eating opportunities are endless because food is sold almost everywhere. "Just go back 20 years," says Yale's Brownell. "You never used to find more than a candy counter in a drugstore. Now there are aisles and aisles of food. If you see a gas station that does not have a food store attached, people are afraid to use it. There are food courts in shopping malls. And in the schools, there are vending machines and soft-drink machines—and they aren't selling carrot juice."

In fact, most of these eating venues are selling the same foods—candy, soft drinks, salty snacks, pastries, ice cream, cookies, nachos, pizza, hot dogs, cheeseburgers, and other fried foods. These are some of the food companies' most profitable items, and they received the lion's share of the \$11 billion the industry spent on advertising in 1997. Indeed, food companies are the second-largest advertisers in the U.S. economy, just behind automobiles. About \$1.54 billion of the total went toward advertising prepared, processed, and convenience foods. Fast-food and food-service companies spent an additional \$3.1 billion. In comparison with these ad dollars, the USDA's nutrition education budget is roughly \$333 million, about the same as the advertising budget for coffee, tea, and cocoa.

There seems to be little connection between people's understanding of food availability and eating behavior and an awareness of their expanding waistlines. In an American Institute for Cancer Research survey in 2000, more than 3 in 4 of those polled said that the kind of food they ate was more important in maintaining or losing weight than the amount of food. Americans' false hope that calories don't count may explain a general ignorance about how much people are actually eating. In that same survey, 62 percent said that compared to 10 years ago restaurant portions are the same size or smaller. Few said they measured out food portions when they eat, nor could most correctly estimate a "serving" of pasta based on the USDA's portion guidelines. Not surprisingly, a sizable majority said they were overweight. Likewise, in a Harvard University survey released in May 2002, more than half of those surveyed said they were overweight. But 78 percent did not think their weight was a problem. Though the vast majority regarded cancer, AIDS, and heart disease as serious health problems, only a third thought obesity was.

One reason Americans are so clueless about weight may be because they still see obesity as an individual moral failing, not an environmental one. In the Harvard survey, 2 out of 3 people said the obesity epidemic could be explained by overweight people "lacking willpower" to diet and exercise. This is nonsense, says Colorado's Hill, who has studied more than 3,000 individuals who have successfully lost and maintained their weight loss. "The way society is today, the only way most people can maintain a healthy weight is with active cognitive control—that is, they are thinking about it most of the time." The problem, he adds, is that few people have the skills necessary to balance how much they're eating against the calories they're using up in physical activity.

Obesity experts say that these skills need to be part of health education in schools. They're taught in many obesity-treatment programs—but those are generally out of reach for most Americans because they're not covered by health insurance. "Insurance coverage is a major obstacle to dealing with obesity," says Yale's Brownell. "The consequences of obesity, such as diabetes, get covered, but obesity [treatment] does not."

Cheap and easy. In many ways, the Young family's struggle with weight typifies the causes of obesity and the challenges of dealing with it: Judy Young is a professional in the computer business, who says her job requires "sitting all the time in front of a computer screen." She's a single mother, and at night, exhausted with a hungry child to feed, the temptation to run to a fast-food restaurant for dinner is often too powerful to resist. "They make it so easy for you to 'biggie size' everything," Young says. She never thought fast food was a good choice, but it saved time for her to help Katie with her homework.

For several years, Katie bought breakfast and lunch at school. "They were so inexpensive," Young recalls. School breakfasts cost only 50 cents and offered doughnuts. Lunch was 65 cents, typically for pizza or a hot dog. Young knew her daughter needed more exercise, particularly after physical education at school was cut to one day a week. But she was nervous about letting Katie walk to school. "We live in a big city," she says, "and it just isn't safe."

By the time Katie was 7, she weighed nearly 130 pounds, about twice the normal body weight for her height and age. "I'm extremely obese, morbidly obese," says Young. "I'm diabetic. I have hypertension, and I saw my daughter moving in the same direction. I knew I had to do something." Young's health insurance plan refused to pay for obesity treatment for Katie and would cover only a minimal number of lab tests. Young borrowed the \$2,500 to sign the family up for a childhood obesity treatment program at Louisiana State University called Committed to Kids.

The brainchild of an exercise physiologist, a nutritionist, and a psychologist from the Pennington Biomedical Research Center at LSU, the program focuses on lifestyle change, not dieting. It encourages eating lots of fruits and vegetables,

limiting portion sizes, having no snack foods or sweets at home, and setting realistic goals for limiting food and increasing exercise. Katie has successfully lost 26 pounds, and she has also grown taller and added muscle, but she still has about 20 more pounds to lose.

In a few weeks Katie begins the school year, a difficult time for weight control. "Kids spend 48 percent of their waking hours in school and three hours a night on homework," says LSU's Melinda Sothern, a founder of Committed to Kids. "It's too much sitting. Homework is the No. 1 reason parents and kids say they can't fit exercise into their day."

The combination of homework and television can be a toxic one for kids like Katie. A large number of studies document that the incidence of obesity is lowest among children who watch one hour a day of television or less and greatest for those who watch four or more. A study published in *Pediatrics* in June showed that 40 percent of 1-to-5-year-olds had a television set in their bedrooms. Even among active preschoolers, those who watched more were more likely to be overweight.

The TV factor. Scientists are not sure whether it's the sedentary nature of television viewing, food consumption in front of the TV, food advertising—or all of them—that promote obesity. "But more things are beginning to point toward food consumption," says William Dietz, director of Nutrition and Physical Activity at the federal Centers for Disease Control and Prevention. TV prompts kids to eat, says Dietz. A study in last week's *Lancet* shows that U.S. children see about 10 food commercials during every hour of TV they watch. In the Young household now, Katie must "buy" her TV time with 30-minute coupons her mother issues as payment for finishing her homework in after-school care.

In two years, Katie will go to middle school, and "she's going to have more access to food outside of my control," her mother says. Indeed, CDC studies show that 73.9 percent of middle and junior high schools have either vending machines or snack bars where high-calorie foods and soft drinks are sold, and 98.2 percent of senior high schools do. More than 23 percent of schools allow companies to advertise candy, fast foods, or soft drinks through distribution of coupons for free or reduced-cost foods. More than 20 percent of schools serve brand-name fast foods, often as part of the USDA-funded National School Lunch Program. The USDA's Stanley Garnett, director of Child Nutrition Programs, says the agency cannot legally restrict the use of fast foods as long as "nutritional standards averaged over a week are met" in the USDA-funded programs.

About 50 percent of school districts have "pouring rights" contracts that allow soft drink companies to sell beverages in the districts' schools; some schools have individual contracts instead. Schools and districts receive a percentage of sales. At 37 percent of schools, payments are tied directly to a quota of drink sales. One Colorado administrator wrote a memo suggesting that in order to sell

enough soft drinks, faculty and staff "allow students to purchase and consume vended products throughout the day."

School administrators say they have to sign these agreements to have money to provide students with computers, sports teams, and more. Even Education Secretary Roderick Paige negotiated a \$5 million exclusive contract with Coca-Cola in 2000 when he headed the Houston school district.

It should not be surprising, then, that the USDA reports 56 percent to 85 percent of children drink sodas every day. Adolescent boys drink, on average, three sugared soft drinks a day; even toddlers drink 7 ounces. Soft drinks have replaced milk in many youngsters' diets.

Soft drinks are increasingly under attack for their possible contribution to childhood obesity. David Ludwig, director of the Obesity Program at Children's Hospital Boston, says his research shows that "for every additional serving of soft drinks a day, a child's risk of becoming obese increases by 60 percent." Ludwig's soft drink study also suggests that calories from sugar-sweetened drinks do not seem to be as filling as calories from other foods.

Soon after Ludwig's results hit the media, studies paid for by the National Soft Drink Association, used government data to show that soft drinks do not cause pediatric obesity. "If you go through all the scientific evidence, you see there is no link between sugar consumption or soft-drink consumption and obesity," says Sean McBride of the NSDA. "Any food or beverage that contains calories can contribute to weight gain, but singling out any one factor for a very complex problem is misguided." This debate is only beginning: New data from Denmark indicate that overweight adults who consumed the equivalent of about two to four 20-ounce nondiet soft drinks per day for 10 weeks gained weight and body fat and their blood pressure increased, compared with a control group drinking artificially sweetened beverages.

School rules. Efforts are underway in at least 10 states to limit the sale of soft drinks and snack foods in schools, and some states have already imposed restrictions. Under USDA regulations, foods of "minimal nutritional value," such as soft drinks, are not to be sold where National School Lunch and Breakfast meals are served and eaten. To get around the rule, some schools put vending machines and snack bars outside, but near, school cafeterias.

But last spring, the Texas Education Agency issued a directive to districts that beginning this fall foods of minimal nutritional value will not be sold in cafeterias, hallways, or common areas—at all. California legislators passed a bill scheduled to take effect in 2004 that sets nutritional standards for food sold in elementary schools and effectively bans sodas, high-fat foods, and fruit drinks with less than 50 percent juice or with added sugar. A bill to phase out soft-drink sales in all schools failed, however. The food industry opposed the bill, but so did the

California Teachers Association, which argued that schools would be deprived of needed cash. "For society to fund education by promoting consumption of such unhealthy products," says Boston's Ludwig, "is among the worst kinds of investments we can make."

Where do we go from here? There are many proposals on the table, from lawsuits to junk-food taxes, school-based efforts to low-cost "fast health food" chains. Two weeks ago, Sens. Bill Frist and Jeff Bingaman introduced the "Improved Nutrition and Physical Activity Act" or "IMPACT." The bill would provide about \$258 million in grants to train physicians in obesity treatment, fund nutrition education, pay for bike and walking paths in communities, and offer tax incentives to businesses that provide workplace exercise facilities and health-food options for employees.

Making moves. It may be that healthful eating and physical activity can be marketed with the same tools used to sell burgers and fries. Since fewer than 10 percent of schools now offer daily physical education, last month the CDC began a \$190 million multimedia campaign—called VERB—to get kids moving. Similarly, Margo Wootan, at the Center for Science in the Public Interest, and Bill Reger, a medical professor at West Virginia University, waged a "1% or Less" campaign to persuade people to use low-fat milk. After eight weeks of paid advertising and a PR blitz, as many as 38 percent of high-fat drinkers in four West Virginia communities switched to low-fat milk. The campaign cost a little more than the equivalent of five coronary bypass operations, yet it reduced dietary saturated fat—and heart risk—for an estimated 30,540 people. Reger is developing a "Five a Day" antiobesity campaign emphasizing fruits and vegetables.

To make the public more calorie-conscious when dining out, health advocates want chain and fast-food restaurants to list the calorie content of their meals prominently on menus and food wrappers. "It wouldn't cost anything," says Michael Jacobson, director of CSPI, who first proposed this idea, "but it could have a major effect on food choices."

These and other obesity-prevention ideas could slim our collective paunch. But for some people, like Judy Young, the benefits won't come soon enough. "I've been on the liquid diet, fen-phen, Redux. I tried Atkins and the Zone," she says. Nothing lasted. This fall, Young plans to undergo gastric bypass surgery, a procedure in which the stomach is sectioned off and a small pouch is created, reducing the amount of food one can eat. Gastric bypass is only recommended for people who are 100 pounds or more overweight. Weight loss is rapid, but high rates of complications are associated with the surgery, and as many as 2 in 100 patients die from it.

Young knows these risks. She says she has weighed them again and again. "If I don't do it," she says, "I don't think I will live to see Katie grow up."

With Mary Brophy Marcus

Cover Story 8/19/02

Global reach - Big Food's brightest stars

There are hundreds of food companies in every country, but most are owned in whole or in part by these global giants:

NESTLE S.A. (coffee, tea, baby formula, pasta, pet food, water, chocolate, and candy)

- 2001 sales: \$50.6 billion

CARGILL INC. (grain, sweeteners, feed, fertilizer, salt, meat and poultry production and processing)

- 2001 sales: \$49.4 billion

UNILEVER (margarines, mayonnaise, peanut butter, tea, ice cream, diet foods)

- 2001 sales: \$45.9 billion

KRAFT FOODS INC. (cheese, cookies, crackers, meats)

- 2001 sales: \$33.8 billion

CONAGRA FOODS (a major food-service supplier; meat, poultry, seafood, dairy, french fries, frozen and prepared dinners)

- 2001 sales: \$27.2 billion

PEPSICO INC. (soft drinks, juice, Frito-Lay chips and snack foods, Quaker cereals and mixes)

- 2001 sales: \$26.9 billion

THE COCA-COLA CO. (soft drinks, coffee, juice, water)

- 2001 sales: \$20.1 billion

ARCHER DANIELS MIDLAND (vegetable oils, animal feeds, corn sweeteners)

- 2001 sales: \$20.05 billion

DIAGEO PLC (Burger King; No. 1 seller of alcoholic beverages)

- 2001 sales: \$18.1 billion

SARA LEE CORP. (meat, breads, pastries)

- 2001 sales: \$17.7 billion

MARS INC. (candy, rice, vending-machine equipment)

- 2001 sales: \$16.5 billion

MCDONALD'S CORP. (fast food)

- 2001 sales: \$14.8 billion

Cover Story 8/19/02

Diet wars

Fat, carbs, or both?

Last week's discovery of a hormone that curbs appetite and food consumption brought hope to the hearts of beleaguered dieters everywhere. Known as PYY, the hormone is normally released by the gut after a meal, signaling the brain that it's OK to stop eating. The report left only one question unanswered for most Americans: "Where can we get it?"

Nowhere, at least for now. Unhappily, the biochemistry of obesity hasn't yet caught up with the epidemic. And so the only form of weight control most people have is old-fashioned calorie restriction—in other words, dieting. And right now, there's a war going on over whether the culprit in the nation's obesity epidemic is too much fat and protein or too many carbohydrates.

The leader of the high-fat/high-protein forces is Robert Atkins. Dr. Atkins' Diet Revolution, first published in 1972, has sold more than 10 million copies promoting a diet high in protein and fat—meat, fish, bacon, cheese—but severely restricting carbohydrates—bread, sugar, and pasta and also fruits and some vegetables. The idea behind the diet is that when the body does not have enough carbs, its preferred energy source, it burns fat instead. A number of other popular diets also adhere to this nutritional philosophy.

On the other side are those who preach a low-fat, high-carb, largely vegetarian diet. They believe that overeating of fat and protein is responsible for Americans' sorry shape. "Carbohydrates are the hardest thing for your body to turn into fat," says Neal Barnard, president of the Physicians Committee for Responsible Medicine. "Your body can't take bread and put it on your thighs. It can do that with chicken or beef fat." Barnard, like Dean Ornish and others, would banish animal products from the diet. Fruits, vegetables, and whole grains, they argue, contain enough protein and fat and far more vitamins, minerals, and fiber than animal protein, so are more filling for far fewer calories.

Heavy load. Recently, another group of nutritionists has been carving out something of a middle ground. They advocate a diet based on the "glycemic load" of foods, or how much insulin the body needs to use them for fuel. White bread, sugar, and potatoes, for example, have a high glycemic load. When eaten, the body reacts with a spike of insulin that drops within a couple of hours, leading to hunger. Protein and fat, as well as vegetables and most fruits, have a lower glycemic load, so demand less insulin and keep hunger at bay longer. David Ludwig, director of the Obesity Program at Children's Hospital Boston, says, "Fat is more calorie dense than carbohydrates, but it may be more filling. It's true that

it's hard to convert carbohydrates into fat, but replacing fat in the diet with starch and sugar may cause more harm than good for body weight."

The assumption has been that if you reduce the percentage of calories in the diet from fat, then total calories go down, says Walter Willet of the Harvard School of Public Health: "But clearly, that's not the case in this country. Total calories have gone up, as has obesity." What's more, fat consumption has risen as well. Between 1965 and 1995, fat in the diet appeared to decrease from 45 percent to 34 percent of calories. But recent USDA data show that all or most of this apparent decline in fat was an illusion. Calories increased, so the percentage of fat in the diet dropped. But total grams of dietary fat actually stayed the same or increased slightly. At the same time, Americans were getting more and more calories from refined carbs. And nobody is advocating a diet high in fat, carbs, and calories. – A.S.

FAT FORMULA

What is obesity?

The body mass index, or BMI, is a formula based on height and weight that's used to determine if a person's body fat is within a healthy range. BMI has been around for years, but in 1998 the National Institutes of Health officially established it as a new way for doctors to put a number on vague categories like "overweight" and "obese." The BMI is increasingly being used as a simple index to help physicians determine whether a patient is at risk for weight-related diseases like diabetes. "It works on a continuum," says Barbara Hansen of the University of Maryland School of Medicine. "As you approach 27 and over, treatment is usually needed."

An easy BMI calculator is found at: <http://www.nhlbisupport.com/bmi/bmicalc.htm>