

Today's "Eat More" Environment

The Role of the Food Industry¹

MARION NESTLE

FROM A PLACE AT THE TABLE

We subsidize the basic ingredients in processed foods. We do not subsidize fruits, vegetables, and whole grains because the producers tend to be small producers. They don't have the kind of political clout that the big commodity producers of corn and soybeans and wheat that gets processed do.

—*Marion Nestle*

If you look at what has happened to the relative price of fresh fruits and vegetables, it's gone up by 40 percent since 1980 when the obesity epidemic began. In contrast, the relative price of processed foods has gone down by about 40 percent. So, if you only have a limited amount of money to spend, you're going to spend it on the cheapest calories you can get, and that's going to be processed foods. This has to do with our farm policy and what we subsidize and what we don't.

—*Marion Nestle*

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Marion Nestle is the acclaimed monitor, investigator, and critic of America's food industry. In her blog at www.foodpolitics.com, she regularly chastises the industry for its heavy-handed exploitation of America's underclass. It's not just being confused by good fats and bad fats, good and low carbs. It's also the bewildering number—320,000—of different food products and the \$34 billion the food industry spends on advertising mostly cheap snack foods and sodas. What gets lost in the decision over what to buy is the all-important calorie count, the daily intake, which, for Americans, has steadily gone up—from 3,200 in 1970 to 3,900 today. An increase of one hundred of those calories came between 2001 and 2002.

She has written several books about the diet wars and food safety, including *Food Politics: How the Food Industry Influences Nutrition and Health* (Berkeley: University of California Press, 2002). In her latest book, *Why Calories Count: From Science to Politics* (Berkeley: University of California Press, 2012), Nestle collaborated with Malden Nesheim, Professor Emeritus of Nutritional Science at Cornell University, to explore how the food industry created the "eat more" environment that has led to the obesity epidemic.

Weight gain, as we keep saying, is caused by eating more, moving less, or doing both. Rates of overweight and obesity began to rise sharply in the United States in the early 1980s. Did Americans start becoming less active at that time? Did they begin to eat more? Or, as is widely believed, did both things happen simultaneously? Let's take a look.

TREND: CALORIES EXPENDED IN PHYSICAL ACTIVITY

Practically anyone you ask will tell you that people in general and kids in particular are less active now than they were in recent decades. Kids hardly ever take physical education classes, walk or ride bicycles to school, or play spontaneous sports. If enrolled in organized sports, they spend more time hanging around than running around. You cannot tear them away from computers, video games, or other sedentary online entertainment. On this basis, some researchers insist that declining levels of phys-

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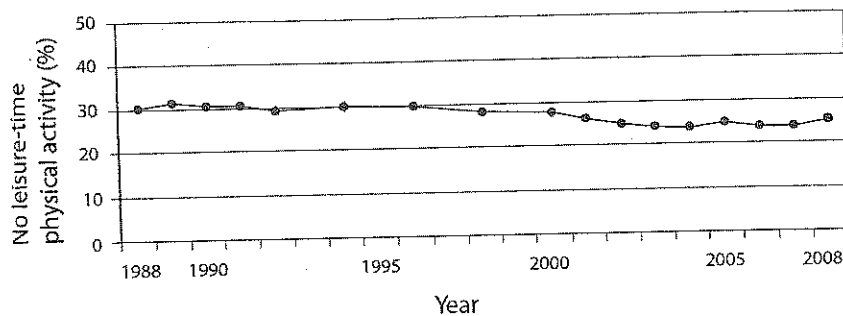


Figure 17 Rates of self-reported leisure-time inactivity, 1988–2008. If inactivity is declining slightly, activity levels must be increasing slightly. Source: CDC, "Physical Activity Statistics," available at: www.cdc.gov/nccdphp/dnpa/physical/stats/ (updated February 2, 2010).

ical activity—not eating more calories—must be the chief cause of today's obesity crisis.²

We wish we had compelling reasons to believe this idea to be correct, but we do not. If anything, research shows the opposite. Studies indicate a slight *increase* in physical activity since the early 1980s. Even research based on self-reports, which tend to exaggerate the most healthful practices, finds practically no change in calorie expenditures since 1980. The Centers for Disease Control and Prevention, for example, conducts periodic surveys of physical activity levels based on self-reports. These show a slight increase in reported activity levels from 1990 to 1998. The CDC also asks questions about leisure-time sedentary behavior. The responses indicate a slight decline in inactivity from 1988 to 2008, as shown in Figure 17.³

Additional CDC surveys record small increases in physical activity among men and women from 2001 to 2005. But other investigators report slight decreases in activity and slight increases in inactivity among ninth- and tenth-grade boys and among both black and white girls between the ages of nine and nineteen. The studies that found such results used different methods, age groups, and time periods and are not easily compared. To try to make sense of the conflicting data, Australian investigators reviewed every study they could find on levels of physical activity, but observed that almost none had collected baseline data on childhood activity from the earlier years. Without a baseline, they could not identify a trend.

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They noted, however, that today's declining rates of active transport (walking, cycling), school physical education, and organized sports constitute what they call an "activity-toxic" environment for kids. Kids want to be active but are constrained by school policies and curricula, parental concerns about safety and convenience, and the almost universal lack of sidewalks, bike paths, and safe places to play.⁴

Years ago kids were watching television and reading comic books. Are they really less active now? Without better data, we cannot agree that declining physical activity is the more important cause of rising rates of overweight, especially because most data are self-reported. We did find one longitudinal study that measured baseline calorie intake and expenditure with doubly labeled water. Baseline total energy intake and resting energy expenditure predicted subsequent obesity, but energy expenditure from physical activity did not.⁵ Overall, the available evidence points to calorie intake as a more important cause of obesity than calorie output.

TREND: CALORIE INTAKE

Studies of calorie intake are much less ambiguous. For them, we have baseline data. Compared to studies dating back to the early 1970s, recent studies show a clear increase in calorie intake, as shown in Table 21.

These figures require some interpretation. They were obtained from self-reports of one-day diet recalls, cover different age groups, may not represent average daily intake, and undoubtedly underreport calories. Taking the results at face value, men in recent years reported eating about two hundred more calories per day than men in 1971-1974. For women, the increase for the same time period has been more than three hundred calories a day. Since 2000, reported calorie intake has declined somewhat, possibly as a result of extending the age range of participants (older people eat less). But whatever the exact number, calorie intakes seem to have increased.⁶ Why? To answer this question, let's look at concurrent changes in the food environment.

CALORIES IN THE FOOD ENVIRONMENT

Since the early 1980s, the US food environment has changed in ways that encourage eating in more places at more times of day in larger portions.⁷

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Table 21 Trends in Self-Reported Calorie Intake, 1971–2008, Per Capita Per Day

Year	Men	Women
1971–1974	2,450	1,540
1976–1980	2,440	1,520
1988–1994	2,670	1,800
1999–2000	2,620	1,880
2001–2002	2,620	1,845
2003–2004	2,610	1,850
2005–2006	2,640	1,785
2007–2008	2,510	1,770

Sources: 1971–2000 figures are from National Health and Nutrition Examination Surveys (NHANES) of people ages twenty to seventy-four (CDC, "Trends in Intake of Energy and Macronutrients—United States, 1971–2000," *Morbidity and Mortality Weekly Report* 53 [2004]: 80–82); 2001–2008 figures come from *What We Eat in America* surveys of people ages twenty to seventy-four and older (USDA, Agricultural Research Service, data tables from *What We Eat in America*, NHANES 2007–2008, revised August 2010, available at: www.ars.usda.gov/Services/docs.htm?docid=18349).

Note: Calories rounded off to the nearest 5.

We attribute these changes to food industry responses to a sharp increase in the number of calories available in the food supply. For more than seventy years, from the early 1900s to the early 1980s, the US food supply provided an average of about 3,200 calories per person per day, with a variation of plus or minus 200 calories. But by 2000, the available calories had increased to 3,900 per person per day, in parallel with rising rates of obesity. We illustrate these trends in Figure 18.

Although calories in the food supply have increased by 700 per person per day since 1980 or so, the constituent proportions of protein (11 percent of calories), fat (41 percent), and carbohydrate (48 percent) show no evident change during that period. The mix of sources within those categories also did not change, except for the replacement of some fats from meat and dairy products with those from liquid oils. Calories from proteins, fats, and carbohydrates increased in direct proportion to total calories.⁸

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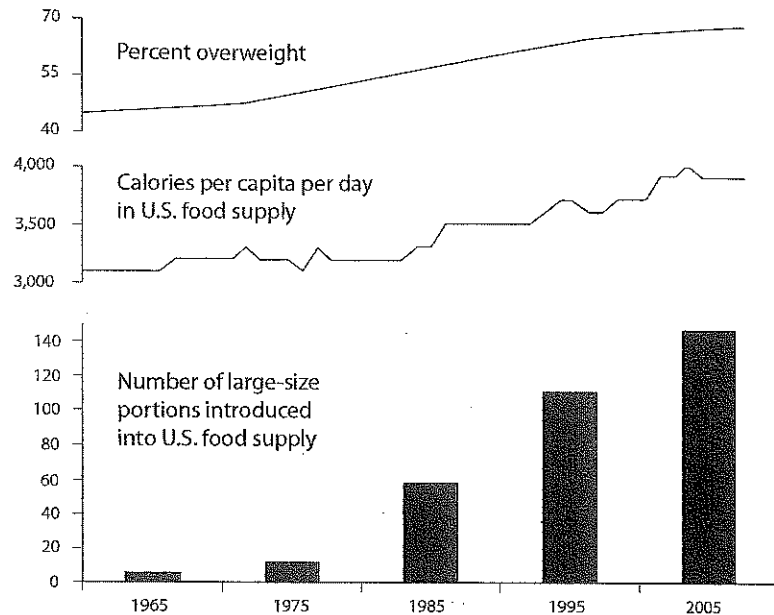


Figure 18 Calories in the food supply and large portions increased in tandem with rates of obesity from 1960 to 2005: trends in overweight (top panel), calories in the food supply per capita per day (middle panel), and the introduction of larger food portions (bottom panel). Figure courtesy of Dr. Lisa Young.

Nevertheless, the kinds of foods that deliver many of the calories to American diets are a matter of considerable concern. The National Health and Nutrition Examination Survey (NHANES) collects data on dietary intake that can be used to identify the foods that are leading sources of calories in American diets. Table 22 summarizes data from the 2005–2006 NHANES. The leading contributors are desserts (grain-based and dairy), sodas, pizza, chips, and burgers. Chicken appears as the number-three source, no doubt because the category includes fried chicken and McNuggets. These are largely foods of low nutrient density and high calorie density—junk foods. Worse, the top *three* food sources of calories for children ages two to eighteen are grain-based desserts (138 calories per day), pizza (136 calories), and sodas and energy and sports drinks (118 calories). Together these three food sources contribute one-fourth of a child's daily calorie intake. NHANES figures are national averages; some children obtain even more of their calories from such foods.⁹

Table 22

Rank	Category
1	G
2	Y
3	C
4	S
5	P
6	A
7	F
8	T
9	E
10	L
11	C
12	E
13	F
14	C
15	F

Source: U.S. Department of Health and Human Services, *National Health and Nutrition Examination Survey*.

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Table 22 Top Fifteen Sources of Calories in US Diets, Ages Two and Older

Rank	Calorie Source	Calories per Day from That Source
1	Grain-based desserts (cakes, cookies, pies, doughnuts)	138
2	Yeast breads	129
3	Chicken and chicken mixed dishes	121
4	Sodas, energy and sports drinks, sweetened waters	114
5	Pizza	98
6	Alcoholic beverages	82
7	Pasta and pasta dishes	81
8	Tortillas, burritos, tacos, nachos	80
9	Beef and beef mixed dishes	64
10	Dairy desserts (ice cream, sherbet, pudding)	62
11	Chips: potato, corn, other	56
12	Burgers	53
13	Reduced-fat milk	51
14	Cheese	49
15	Ready-to-eat cereals	49

Source: USDA, Center for Nutrition Policy and Promotion, "Dietary Guidelines for Americans, 2010," available at: www.cnpp.usda.gov/DietaryGuidelines.htm.

Sugary drinks are of special concern. A later analysis of NHANES data from 2005 to 2008 reports that boys ages twelve to nineteen consume nearly 300 calories a day from sugary drinks alone, and that 5 percent of the US population consumes nearly 570 calories a day from such drinks. These contain sugars but no or few nutrients and are as low in nutrient density as you can get.¹⁰

The Causes

Why more calories became available is a matter of some conjecture. One frequently cited cause is the influx of women into the workforce, creating demands for convenience. But before blaming women for causing obesity,

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consider the labor statistics. These suggest that while women in the workforce—and longer working hours—may be contributing factors, the timing isn't quite right. By the early 1980s, half of working-age women had already entered the workforce, and from 1981 to 2007 the percentage only increased from 52 to 60 percent.¹¹ In any case, women can hardly be blamed for the food industry's creation of high-calorie, low-nutrient-density convenience foods. We think the evidence points more strongly to two other causes: agricultural policies and the advent of the "shareholder value" movement, which changed the way Wall Street evaluates publicly traded corporations.

Agricultural Policies. In 1973 and 1977, Congress passed laws that reversed long-standing farm policies aimed at protecting prices by controlling production. These policies paid farmers to set aside acres, but that changed when Earl Butz, a former dean of agriculture at Purdue, became USDA secretary and reportedly urged them to plant "fencerow to fencerow." Whether Butz really said this or not—no source has ever been found for the statement—the new policies encouraged farmers to plant as much as they possibly could. Food production increased, and so did calories in the food supply. The addition of seven hundred calories a day per capita made the food industry even more competitive. Food companies now had to find new ways to sell products in an environment that offered a vast excess of calories over the needs of the population. Even if, as the USDA maintains, Americans waste a third of available calories, the food supply is still highly overabundant.¹²

The "Shareholder Value" Movement. The onset of a movement to force corporations to produce more immediate and higher returns on investment especially increased competitive pressures on food companies. The movement's start is attributed to a speech given by Jack Welch, then head of General Electric, in 1981. Corporations, Welch said, owed more to their shareholders. His company would now focus on producing faster growth and higher profit margins and returns to investors. The movement caught on quickly, and Wall Street soon began to press companies to report not only profit but also increased *growth* on a quarterly basis. Food companies were having enough trouble producing profits in

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an overabundant food economy. Now they had to demonstrate profit growth every ninety days.¹³

The Consequences

Competitive pressures forced food companies to consolidate, become larger, and seek new markets and ways to expand sales in existing markets. The collateral result was a changed society. Today, in contrast to the early 1980s, it is socially acceptable to eat in more places, more frequently, and in larger amounts, and for children to regularly consume fast foods, snacks, and sodas—changes that singly and together promote higher calorie intakes. Here we highlight just a few of the ways in which the altered food environment promotes overeating.¹⁴

Foods Away from Home. An abundance of food creates a cheap food supply, making it less expensive for people to eat foods prepared outside the home. Beginning in the late 1970s, spending on away-from-home foods rose from about one-third of total food expenditures to about one-half. The proportion of calories obtained from away-from-home foods rose from less than 20 to more than 30 percent, with much of the increase coming from fast food. Among children, the percentage of daily energy eaten away from home increased from 23 to 34 percent. According to an analysis of national food consumption surveys, children get more of their daily calories from fast-food outlets than they do from schools, and fast food is the largest contributor to the calories they consume outside the home. USDA economists say that the average meal eaten away from home by adults adds 134 calories to daily intakes, and one meal a week eaten at a restaurant can account for a two-pound annual weight gain.¹⁵

New Products. The low cost of basic food commodities has encouraged food companies to make new forms of tasty packaged food products. Manufacturers introduce nearly 20,000 new products into the food supply each year, nearly half of them candies, gums, snacks, and sodas. The habitual consumption of such foods is associated with long-term increases in calorie intake and body weight, and 40 percent of the calories in the

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diets of children and adolescents are reported to derive from high-calorie sweets and snack foods.¹⁶

Larger Portions. Once food became relatively cheap, restaurants, fast-food chains, and major food companies could offer foods and beverages in larger sizes to attract customers. Larger portions have more calories. They also encourage people to eat more and to underestimate the number of calories in their food by larger percentages. The increase in portion sizes is sufficient to explain rising levels of obesity (see Figure 18).¹⁷

Ubiquity. We like to ask the question: when did it become acceptable to eat in bookstores? Today snack foods are sold in 96 percent of pharmacies, 94 percent of gasoline stations, 22 percent of furniture stores, and 16 percent of apparel stores. Research shows that if food is at hand, people will eat it.¹⁸

Frequency. Nibbling may seem like a good idea, but the more times a day people eat junk foods, the more calories they are likely to consume. It now seems normal to snack and drink sodas throughout the day. Surveys find that children eat an average of three snacks per day, most of them high-calorie desserts, junk foods, and sweetened beverages of poor nutritional quality.¹⁹

Proximity. The mere location of fast-food restaurants near schools has been shown to promote fast-food consumption as well as overweight, even when corrected for community characteristics. Cornell professor Brian Wansink and his colleagues have demonstrated the calorie-promoting effects of having food close at hand. The closer the candy dish, the more candy consumed. The mere presence of vending machines encourages kids to buy high-calorie foods, which explains why health advocates would like to see vending machines removed from schools.²⁰

Low Prices. Adam Drewnowski and his team at the University of Washington have shown that on a per-calorie basis, junk foods are cheaper than healthier foods. They estimate that following federal dietary advice to increase intake of fruits and vegetables would raise one's food costs by sev-

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eral hundred dollars a year. If fruits and vegetables appear more expensive than junk foods, it's because they are. The Consumer Price Index indicates an increase of about 40 percent in the relative cost of fruits and vegetables since the early 1980s, whereas the indexed price of desserts, snack foods, and sodas has declined by 20 to 30 percent. Lower prices encourage people to eat more. Higher prices discourage food purchases.²¹ For example, as part of its contribution to obesity prevention, Coca-Cola now offers drinks in 7.5-ounce cans, but prices them higher than 12-ounce sodas. As a retailing executive once explained to us, if customers want smaller portions, they ought to be willing to pay for them.

Marketing Health. The food industry spends billions of dollars a year to encourage people to buy its products, but foods marketed as "healthy" particularly encourage greater calorie intake. Professor Wansink's experiments show that people eat more calories from snack foods labeled low-fat, no trans fat, or organic. Most people, he says, are "blissfully unaware" of how the food environment influences what they eat. People take in excessive calories "not because of hunger but because of family and friends, packages and plates, names and numbers, labels and lights, colors and candles, shapes and smells. . . . The list is almost as endless as it's invisible."²²

Invisible to consumers, yes, but not to food marketers. The result of constant exposure to today's "eat more" food environment, as David Kessler explains in *The End of Overeating*, has been to drive people to desire high-calorie foods and to become "conditioned overeaters."²³ The power of this food environment to promote greater calorie intake is so great that even educated eaters have trouble dealing with it. If you as an educated eater have trouble managing "eat more" pressures, it is because it is virtually impossible for individuals to judge the number of calories they are eating.



Dr. Marion Nestle is the Paulette Goddard Professor of Nutrition, Food Studies, and Public Health at New York University. Her other books include *Safe Food: Bacteria, Biotechnology, and Bioterrorism* (Berkeley:

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University of California Press, 2003) and *What to Eat* (New York: Farrar, Straus & Giroux/North Point Press, 2006). She is co-editor (with Beth Dixon) of *Taking Sides: Clashing Views on Controversial Issues in Food and Nutrition* (New York: McGraw-Hill/Dushkin, 2004) and author of *Pet Food Politics: Chihuahua in the Coal Mine* (Berkeley: University of California Press, 2008). She also edited the 1988 *Surgeon General's Report on Nutrition and Health*.

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MEDIA

A PLACE AT THE TABLE

THE CRISIS OF
49 MILLION
HUNGRY AMERICANS
AND HOW TO SOLVE IT

Edited by Peter Pringle

2013

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