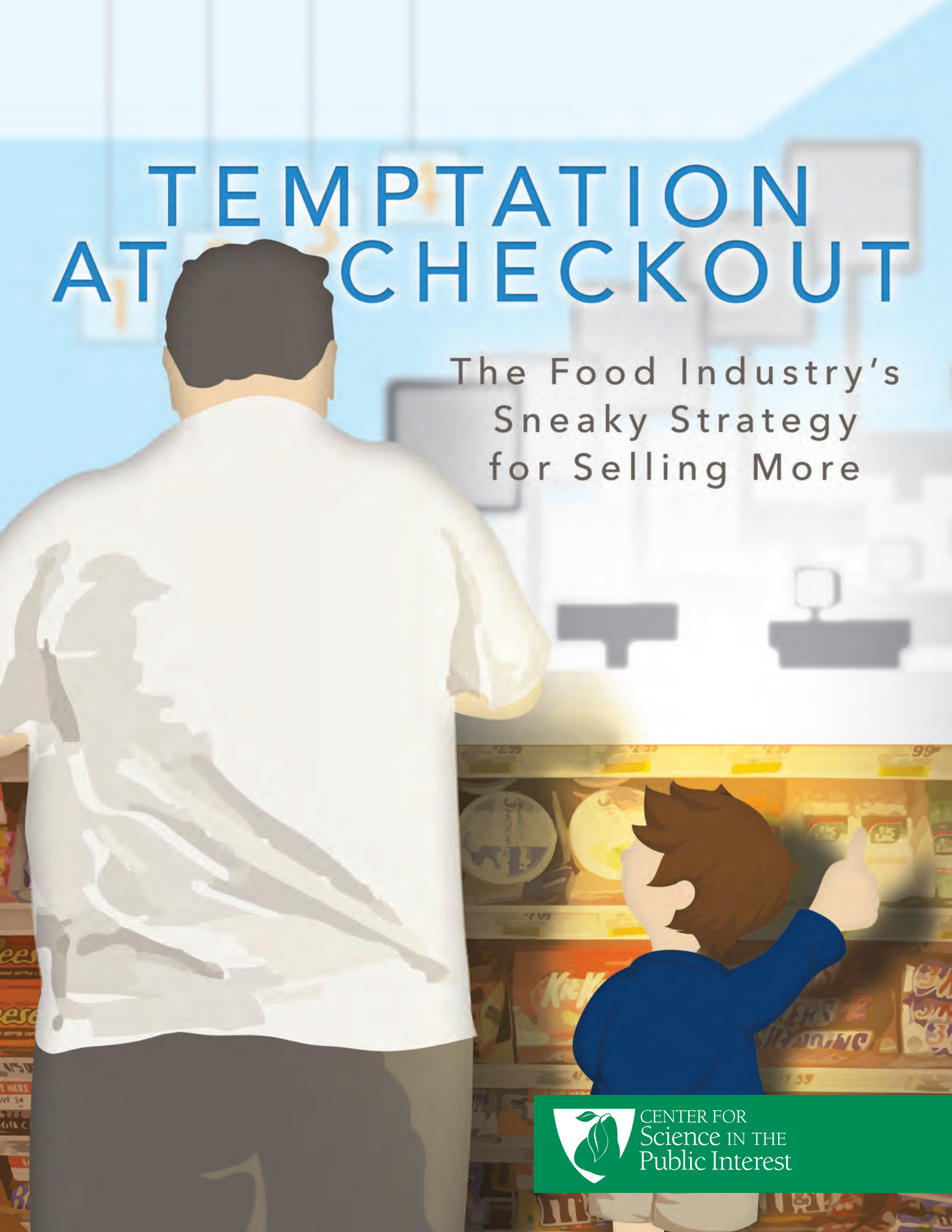
TEMPTATION AT CHECKOUT

The Food Industry's Sneaky Strategy for Selling More



CENTER FOR Science IN THE Public Interest

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CSPI and the Nutrition Policy Project

The Center for Science in the Public Interest is a nonprofit organization based in Washington, D.C. CSPI has been improving the public's health through its work on nutrition and food safety since 1971. CSPI is supported primarily by the subscribers to its *Nutrition Action Healthletter* and philanthropic foundations. CSPI's Nutrition Policy Project works with concerned citizens, health professionals, government officials, and other nonprofit organizations to strengthen national, state, and local policies and programs to promote healthy eating and reduce obesity. It aims to help reduce the illnesses, disabilities, and deaths caused by diet- and obesity-related diseases and conditions, such as heart disease, cancer, high blood pressure, and diabetes.

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Temptation at Checkout: The Food Industry's Sneaky Strategy for Selling More is available on-line, free of charge at **cspinet.org/temptationatcheckout**

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Executive Summary

The food environment—comprised of people's surroundings and the marketing they are exposed to—influences what foods people buy and eat (Glanz, 2012; Cohen, 2012a). Retail stores, including supermarkets, big box stores (like Walmart), warehouse stores, and convenience stores, are set up to prompt people to purchase particular foods and more food through their layout, product displays, and in-store promotions (Ailawadi, 2009; Glanz, 2012).

Many Americans have thought a lot about the healthfulness of their diets (IFICF, 2015). Nonetheless, most also consume more calories, saturated fat, salt, and refined/added sugars, and fewer fruits, vegetables, and whole grains than are recommended for good health (USDA, 2010). As a result, many Americans end up suffering from nutrition-related diseases or disabilities (CDC, 2015a).

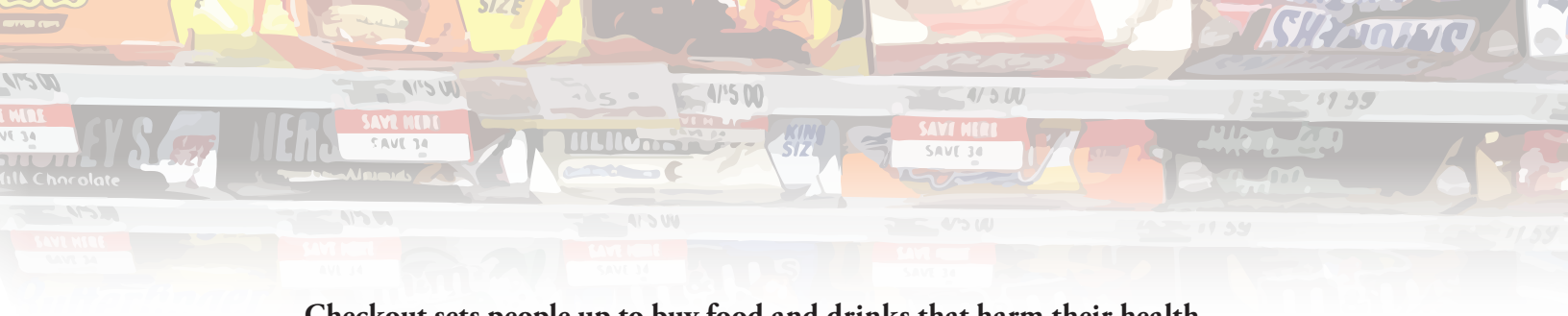
This report examines one reason why it is so difficult to eat well in America today: retail marketing manipulates food choices (Kerr, 2012). We conclude that with high rates of obesity, diabetes, and other chronic diseases due to poor nutrition, the retail environment should be shaped not only by economic drivers but also by public health considerations. We propose beginning with the checkout aisles of retail stores, where the vast majority of purchases are unplanned. By rethinking checkout, retailers could support their customers' health, rather than pushing the consumption of extra—and often unwanted—calories from candy, soda, and other unhealthy foods and beverages.

Placement is a powerful retail marketing technique

- Placement can prompt purchase (Kerr, 2012). Placement at children's eye level can prompt children's requests for particular (and usually unhealthy) foods and beverages (Horsley, 2014).
- The food industry pays handsomely to place products at checkout. Supermarkets sell about $5.5 billion of food, drinks, and other products from checkout each year (FMI, 2012). Non-food stores—including book, toy, hardware, clothing, and home goods stores—also push foods and beverages at checkout (Fielding-Singh, 2014).

Checkout prompts impulse buys

- Every shopper must pass through and spend time in the checkout area.
- Simply seeing a product can activate an urge to consume it, and the fact that a product is immediately available to be consumed can intensify this urge (Dholakia, 2000). The sight of food can trigger a desire to eat that does not reflect a physiological need for food (Hill, 1984; Cohen, 2012a).
- After making a series of decisions, such as choosing among the 30,000 to 50,000 items in a supermarket (Sorensen, 2009), people are more likely to make choices against their best interests (Bruyneel, 2006; Baumeister, 2002). Willpower is like a muscle that fatigues with use (Cohen, 2012a).
- Though people can and do resist temptations, factors such as stress, distraction, and fatigue can make people vulnerable to eating on impulse (Cohen, 2009). The ubiquity of unhealthy foods and beverages triggers lapses that can result in meaningful increases in caloric intake.



Checkout sets people up to buy food and drinks that harm their health

- The majority of food and beverage checkout offerings are candy, gum, energy bars, chips, cookies, soda, and other sugary drinks (Miller, 2012; Fielding-Singh, 2014; Masterfoods, 2010a).
- When food company researchers interviewed shoppers, 60 percent said they had bought candy and 45 percent said they had bought soda from checkout in the past six months (Masterfoods, 2010b). Most people who buy candy or soda from checkout do so at least monthly (Front-End Focus, 2014).
- Purchases at checkout do not displace planned purchases; they add to them (Masterfoods, 2010a).
- Shoppers who buy candy and soda at checkout are often the same people who deliberately ignore those items in the aisles in the store where they are stocked (Miranda, 2008).

Checkout could promote health, as well as sales

- Placing foods in prominent places in retail stores increases their visibility, accessibility, and sales. Retailers can nudge customers to select healthier options or non-food items by placing them at checkout. There are examples of healthy checkout projects from communities all over the United States (Haggard, 2014; Wines, 2014; LaRoche, 2014).
- Stores already sell a number of non-food items at checkout, including magazines, lip balm, hand sanitizer, USB cables, gift cards, toys, and reusable shopping bags (Fielding-Singh, 2014). They could expand their selection and replace unhealthy foods and beverages with non-food items.
- Three major grocery chains in the United Kingdom have already eliminated candy from checkout altogether (Clark, 2014; Craig, 2014; Burrows, 2014). (They rarely carried soda to begin with.) Customer response has been positive (Lidl, 2014).

Recommendations

- Food stores should adopt food and nutrition standards for checkout, selling only non-food and healthier food and beverage options there.
- Non-food stores should remove food and beverages at checkout.
- Like food manufacturers have agreed to policies on food marketing to children, they should voluntarily agree not to use placement fees to induce retailers to place unhealthy foods and beverages at checkout.
- Policymakers should implement policies that set nutrition standards for retail checkout, addressing impulse marketing of foods that increase the risk of chronic diseases.
- Health departments, other government agencies, hospitals, and other institutions should adopt healthy checkout policies for the properties they own or manage.
- Individuals should urge retailers and policymakers to remove unhealthy foods and beverages at checkout.

Introduction

The placement of food and drinks in the checkout aisles of retail stores is a powerful form of marketing that contributes to food environments that promote unhealthy eating and diet-related disease. Foisting candy, chips, soda, and other sugary drinks upon customers at the end of a shopping trip exploits human psychology and basic biology, making shoppers vulnerable to consuming additional calories, added sugars, saturated fat, and other dietary constituents that put their health at risk.

Considering the high levels of obesity among U.S. children and adults, retailers and food manufacturers should not purposefully undermine Americans' diets or pit children against their parents to pester them to buy unhealthy foods. The food industry should instead adopt nutrition standards for which foods and beverages could be marketed at checkout. Many large food and beverage companies have already adopted a similar approach to children's advertising by joining the Council of Better Business Bureau's Children's Food and Beverage Advertising Initiative (CFBAI), which applies nutrition standards to products advertised through children's television and other child-directed media.

Food Companies Push Junk Food in Supermarkets and Other Stores

Decisions about what to eat and how much are affected by more than personal preferences and physiological needs. Many people want to lose weight or eat more vegetables, for example, but find it difficult. One key reason is that companies manufacture an enormous amount of sweetened and salted processed foods, refined grain products, and sugary drinks—"junk foods" for short—which they market using a wide array of techniques, including placing food ubiquitously throughout communities.

In 2012, companies sold 799 million pounds of potato chips, 657 million pounds of tortilla chips, 222 million pounds of pretzels, and 1.2 billion pounds of cookies (SFA, 2013). Companies sold $11.3 billion of these products in 2012 (SFA, 2013). Candy is an even bigger business with annual sales of $34 billion (NCA, 2014).

Beverage companies churn out the equivalent of eight 12-ounce cans of soda (including diet) per person each week, with annual sales of $76 billion (Beverage Marketing, 2013; Esterl, 2014). Although overall sales of carbonated sugar drinks have waned since

Several kinds of entities are involved in retail. ChangeLab Solutions and the New York City Department of Health & Mental Hygiene have developed these definitions:

Manufacturer: A supplier that makes the products it sells. Manufacturers can sell to wholesalers or directly to retail stores.

Wholesaler: A supplier that gathers products from different sources and resells them to retail stores. Generally wholesalers only sell to other businesses, not directly to consumers.

Distributor: A wholesaler that delivers products to the retail location.

Retailer: A store that sells directly to the public, not just other businesses. Sometimes larger retailers, such as wholesale clubs (e.g., Costco) or big box stores (e.g., Walmart), also serve as suppliers for small stores (ChangeLab Solutions, 2015).

The weight of all the candy sold for one year's Halloween is equivalent to six Titanics (Madarang, 2013). Three other key "seasons" for candy sales are Christmas, Valentine's Day, and Easter. Seasonal sales, which span 23 weeks a year (Halloween and Christmas each account for 7 weeks), total 60 percent of annual candy sales (NCA, 2010b).

1998, energy drink sales are soaring (Esterl, 2014). In 2013, Red Bull and Monster had sales increases of 6.4 percent and 7.7 percent, respectively, over 2012 (Bouckley, 2014).

Researchers examined where children get empty calories and found that 70 percent of the calories from soda and other sugary drinks in children's diets come from a retail store, with the rest coming from restaurants, vending machines, and other sellers, such as sports facilities (Poti, 2013).

What is now 7-Eleven started in 1927. The company claims to have launched the convenience store concept and incorporated gas pumps as soon as cars became popular (7-Eleven, 2014). However, many gas stations and convenience stores operated independently through the 1960s and 1970s. The convenience store chain Sheetz, for example, was founded in 1952 and did not add gas pumps until 1973, and many self-serve gas stations in the 1960s and 1970s featured vending machines rather than the convenience stores of today (Wikipedia, 2014; Jones, 2003). Everything changed in the mid-1990s, when Exxon-Mobil tested its first On The Run convenience store in Holden, Massachusetts and the convenience chain Wawa added gas pumps (Exxon-Mobil, 2007; Steinberg, 2011). Now convenience stores and gas stations are often operated together as a single entity.

"Every day, corporate managers make decisions about what products to make and how and where to market them. These seemingly ordinary choices, the lifeblood of our market economy, shape our environment and lifestyles so pervasively that their influence is all but invisible. But, increasingly, what corporations decide also shapes our patterns of health and disease" (Freudenberg, 2014). Checkout is a key component of food and beverage marketing, particularly for candy and soft drinks.

Retail Stores Are a Primary Source of Junk Foods in Americans' Diets

Supermarkets currently represent 64 percent of the market share of food consumed at home (USDA, 2013c). They sell most of the snacks that end up in adults' diets and are the primary source of empty calories in children's diets (FMI, 2009; Poti, 2013). In fact, children get, on average, 436 more empty calories each day from store-bought foods than from fast-food restaurants and school cafeterias (Poti, 2013).

Other retail stores also promote and sell junk food and sugar-sweetened beverages, including passing along manufacturers' discounts. Walmart has more than 3,000 food-selling supercenters in the United States, and it sells considerably more food than any supermarket chain (Blatt, 2014). Additionally, Costco, Target, and 7-Eleven are among the ten largest food retailers in the United States and Canada, according to Supermarket News (2014a).

In some communities, convenience stores are the most common retail food outlets, offering less variety and fewer healthful foods than supermarkets (Cannuscio, 2013; Zenk, 2014). Beverage sales drive traffic to convenience stores, with soda sales at convenience stores totaling $8.1 billion each year (Masterfoods, 2010c; Convenience Store News, 2013). Nearly one-quarter of Americans ages 18 to 24 make a soda purchase at a convenience store more than once a week (Convenience Store News, 2013). Convenience stores also sell 62 percent of all single-serve candy sales across all food, drug, and mass-merchandise stores, excluding Walmart (Masterfoods, 2010c).

Additionally, nearly one-third of shoppers go to drug stores specifically to buy foods and beverages, and very few use a shopping list there (Masterfoods, 2010d). As a result, candy

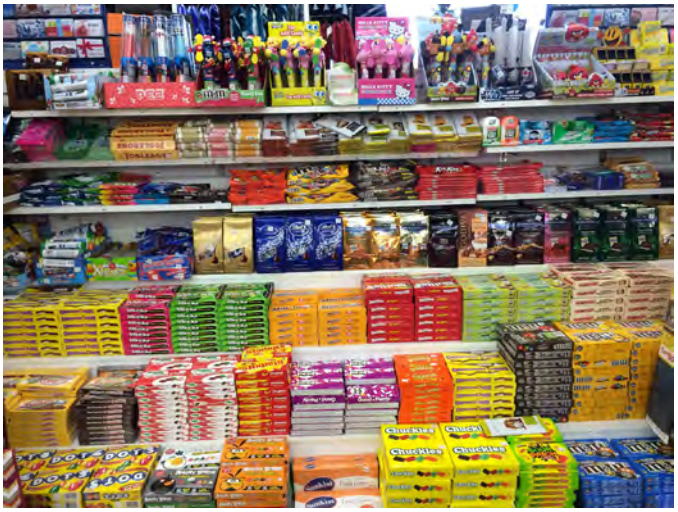
companies are urging drug stores to "increase basket ring"—that is, the total dollar value of each trip—by putting candy at the counter where people pick up their prescriptions (Masterfoods, 2010d).

In one study, researchers found that convenience stores and drug stores in Louisiana had on average 50 times more shelf space devoted to soda, salty junk food, cookies, snack cakes, and candy than to fresh, canned, or frozen fruits and vegetables (Farley, 2009a). In convenience stores and drug stores in California, soda and junk food took up 20 to 30 times as much shelf space as produce (Farley, 2009a). Furthermore, every one of the 121 convenience stores and 29 drug stores in that study sold soda, salty junk food, and candy, while only 11 percent of convenience stores and three percent of drug stores sold any fresh fruit.

83% of convenience stores now sell gas & over 70% of sales dollars come from fuel

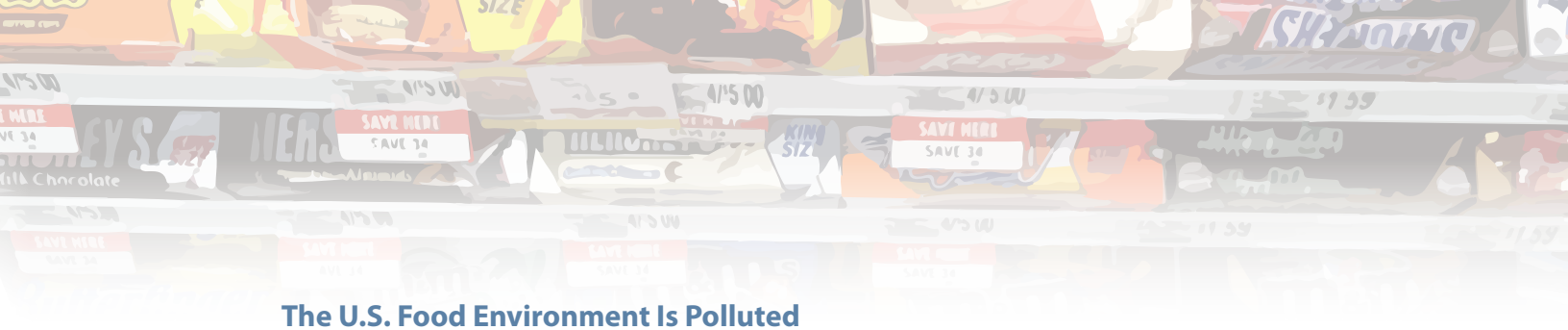
Gas stations and convenience stores often operated independently through the 1960s and 1970s. In the mid-1990s, there was an explosion of gas stations expanding into the convenience market and convenience stores selling gas. Convenience stores are now, for the most part, heavily dependent on people gassing up, and nearly every gas station operates as a convenience store.

Another study found that only eight percent of convenience stores near Atlanta sold 100% whole grain bread, and a paltry three percent sold vegetables (Glanz, 2007). And in a third study, limited-service stores—defined as convenience stores, specialty stores, liquor stores, drug stores, dollar or discount stores, general merchandise stores, or produce markets—had, on average, 32 percent fewer healthier products available (e.g., 100% whole wheat bread) than the foods' less healthy counterparts (e.g., white bread) (Zenk, 2014).



Candy at Bed Bath & Beyond Checkout, Rockville, Maryland (2013)

Many non-food retailers, including clothing, home goods, book, and hardware stores, also push junk food and sugary drinks on their customers. Bed Bath & Beyond, for example, often sells movie-sized candy packages in checkout-aisle displays and recently acquired Cost Plus, an import discounter, to expand its food sales. Citing competition with online retailers like Amazon, an executive at Bed Bath & Beyond said that food sales represent "a future opportunity" for the retailer that is best known for duvets and shower curtains (Cheng, 2012).



The U.S. Food Environment Is Polluted

The ubiquity of food and predominance of unhealthy foods in our surroundings (the food environment) work against people's efforts to eat well, straining willpower to the breaking point. The contemporary food environment is saturated with junk foods. Humans evolved to crave foods high in salt, sugars, and calories, which were scarce during most of human history, and people continue to crave the same kinds of foods—only now their abundance threatens our health and wellbeing (Cohen, 2014).

> **"The food industry** has made a fortune because we retain Stone Age bodies that crave sugar but live in a Space Age world in which sugar is cheap and plentiful. Sip by sip and nibble by nibble, more of us gain weight because we can't control normal, deeply rooted urges for a valuable, tasty and once limited resource" (Lieberman, 2012).

That most Americans can afford to buy extra calories they do not need is a recent development in human history. There are now 3,900 calories available for each person each day in the United States—almost double the average person's needs (USDA, 2011).

Food is less expensive relative to Americans' income than it was for previous generations. In 2012, for example, American households spent an average of 10 percent of their income on food, whereas in the early 1970s, the share was about 14 percent, even though people eat out more now than they did then (BLS, 2012; BLS, 1973).

> **For centuries**, chocolate had been a luxury reserved for the rich. All this changed when Hershey began selling five-cent chocolate bars in 1900. By the 1940s, Americans comprised 5 percent of the world's population but consumed 40 percent of all chocolate and cocoa products worldwide (Lamme, 2013). Now the average American consumes more than 23 pounds of chocolate and candy every year—the equivalent of 4½ Hershey's bars each week (U.S. Census Bureau, 2010).

Just like a polluted natural environment leads to asthma, a contaminated food environment leads to diet-related health problems. Exposure to impulse marketing and strategic placement of unhealthy foods are risk factors for obesity (Cohen, 2012a). A study of 1,243 people in southeastern Louisiana found that easy retail access to high-calorie foods correlated with greater weight (Rose, 2009). Where stores devoted more shelf space to junk food, people in the community had heavier body weights, and poor access to healthy foods was associated with less nutritious diets (Glanz, 2012). Additionally, children may be particularly vulnerable to food environments over which they have little control (Ding, 2012).

> **"The food environment** has become a tsunami. If it doesn't drown us, it waterlogs even the strongest of swimmers, who have to exert more energy, be more alert and more conscientious than ever before just to stay afloat" (Cohen, 2014).

The presence of food does not just provide opportunities to eat, but also serves as a cue to snack (Farley, 2009b). Now, food is readily available at almost any time and location, and many foods that were once reserved for special occasions—for example, cake, soda, ice cream, and candy—are now constantly available and consumed regularly. This polluted food environment means that giving in, even if only occasionally, can result in overeating.

People are prompted to purchase food at shopping malls, gas stations, stadiums, workplaces, airports, movie theaters, bowling alleys, and almost anywhere else they go. Excluding the kind of stores that typically sell food (grocery stores, convenience stores, liquor stores, and restaurants), 41 percent of commercial establishments display or

sell food to their patrons (Farley, 2009b). Almost all pharmacies and gas stations sell food, as do many hardware stores and auto-supply stores.

The polluted food environment can make raising healthy children today more difficult in some ways than in the past. Not only must parents contend with helping their kids make healthy choices during meal times, but they must also contend with food being within arm's reach at stores whose prime business is not selling food. Children are confronted with decisions about whether and what to eat all of the time—including at times when parents are not present. Kids, for example, encounter food through school cafeterias, school vending machines, fundraisers, parties, snack time at school, after-care programs, rewards for good behavior or performance, parks, soccer games, concerts, stadiums, toy stores, convenience stores, grocery stores, the zoo, circus, movies, and checkout counters at toy, clothing, home goods, and hardware stores.

"Since having children, I have come to resent the insidious nature of sugar and how it worms its way into our lives at the most inconvenient times. Whether it's a friendly storeowner offering a lollipop to my boys right before lunch, or candy canes handed out around Christmas, or the free ice cream that accompanies kids' meals in restaurants, or gigantic frozen popsicles after soccer practice in the summer, it just seems that we can't escape the sugar deluge" (Martinko, 2014).

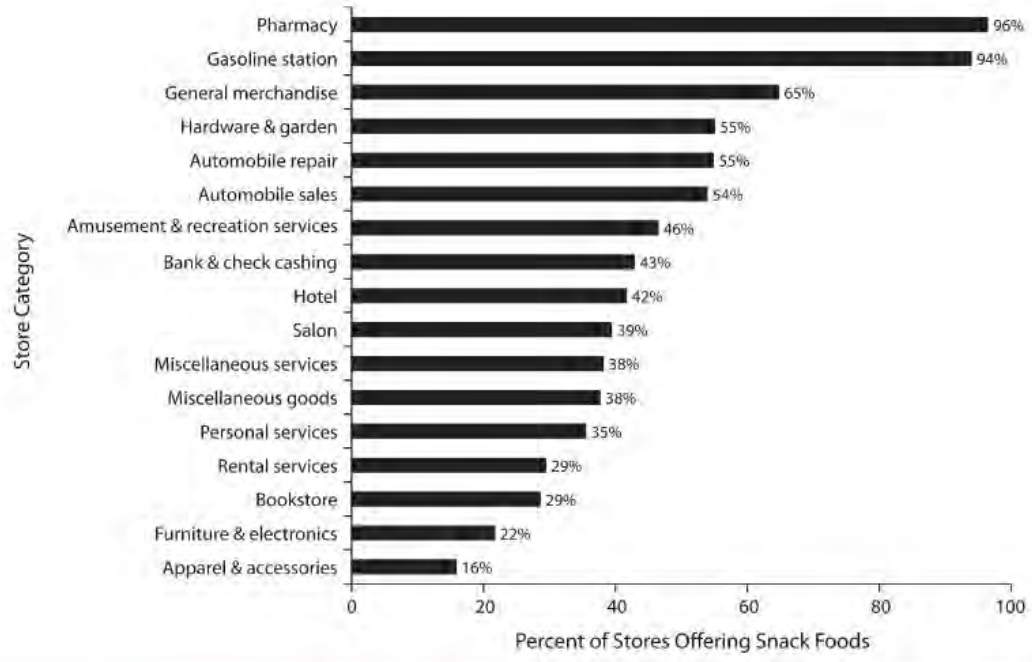
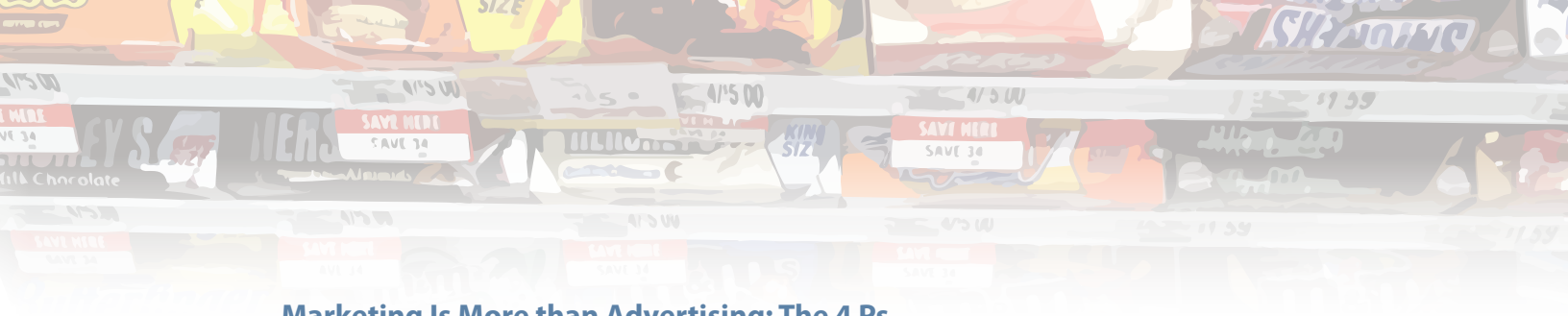


FIGURE 2—Availability of snack foods by store category: 19 US cities, 2007–2008.

Source: Farley, 2009b.



Marketing Is More than Advertising: The 4 Ps

Food companies and retailers spend billions to entice people to buy and consume particular—and more—food and household products. After World War II, the United States began producing more consumer goods than were needed, which led to increased competition and marketing (Iyengar, 2011). Around the same time, large self-service supermarkets replaced small, limited-assortment grocery stores. Safeway and A&P opened supermarkets and shuttered many of their small stores, and supermarkets introduced the precursor to the modern shopping cart—a rolling basket carrier—and automatic doors that freed up shoppers to exit carrying their own groceries (Halper, 2005).

When most people think of marketing, they picture television, magazine, and Internet advertising, which are forms of *promotion*. However, when it comes to food, promotion is only one piece of the marketing pie. Companies also manipulate the product, prices, and placement to encourage sales.

Food companies spend $33 billion on marketing each year (USDA, 2013a; USDA, 2013b). Marketing can be described as "push"—getting products into the supermarket and other distribution channels—or "pull"—getting customers to go looking for particular products on supermarket shelves (Martin, 2008).

While in-store marketing has a long history, it has become more prominent in recent years. In 1968, food manufacturers spent 28 percent of their marketing budgets on incentives to get retailers to persuade shoppers to buy particular products, with the remaining three-quarters going to advertising (AAI, 2013). By 1997, the manufacturers' budgets were split 50-50 between retailer incentives and direct marketing to customers (AAI, 2013). Now, big food companies spend about twice as much money enticing retailers to promote their products in-store as they spend on advertising (AAI, 2013).

Promotion

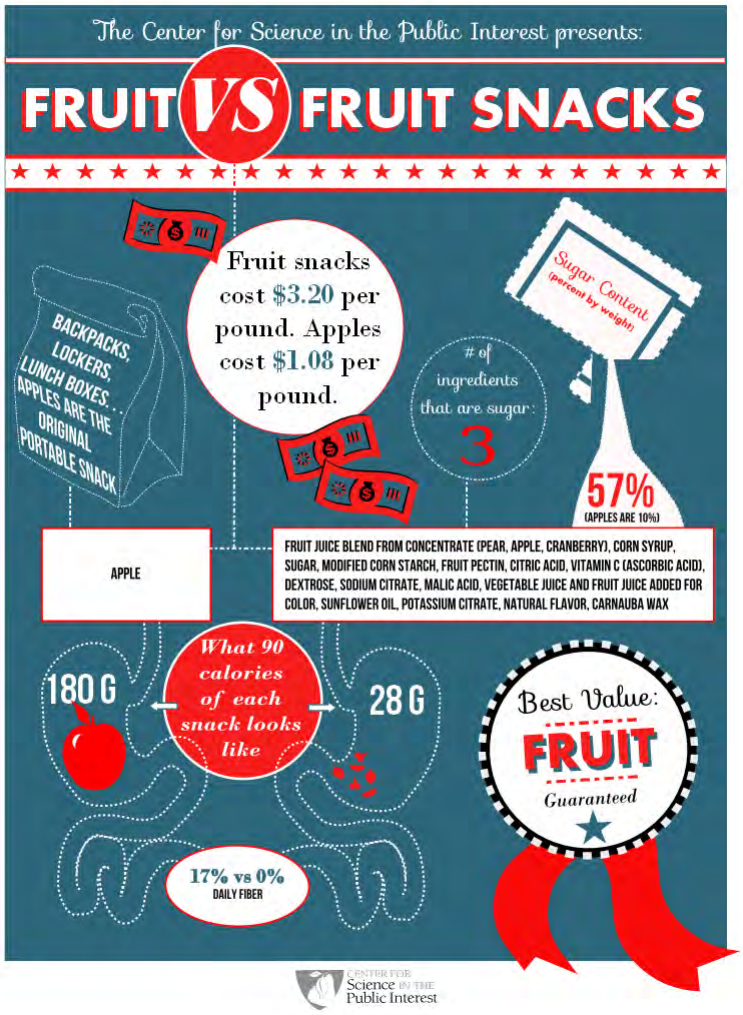
Promotion includes advertising on television, billboards, and the Internet; in-store signage and advertising; the use of social media; and advergames (so-called because they combine advertising and electronic games).

Stores are set up to induce shoppers to spend more money and buy particular products. Sometimes the cues to buy are so subtle that people are not consciously aware of them. When people are focused on a particular task rather than advertising messages, even incidental exposure to ads can influence their attitudes toward the products advertised and the likelihood that they will consider buying them.

In one experiment, researchers tested the unconscious influence of ads by asking students to read whodunit stories in a magazine (Shapiro, 1999). They gave some students magazines with ads and others magazines with crossword puzzles. The researchers then asked the students to choose products they would consider buying from a catalog, with the caveat that they should not list any products they had seen advertised. Nonetheless, students who had viewed certain ads were more likely to say they would consider buying the advertised product from the catalog than the students who had not been exposed to the ads. The researchers

concluded that this was strong evidence that some ads affect behavior as a result of "unconscious influences, which by definition are outside a person's volitional control" (Shapiro, 1999).

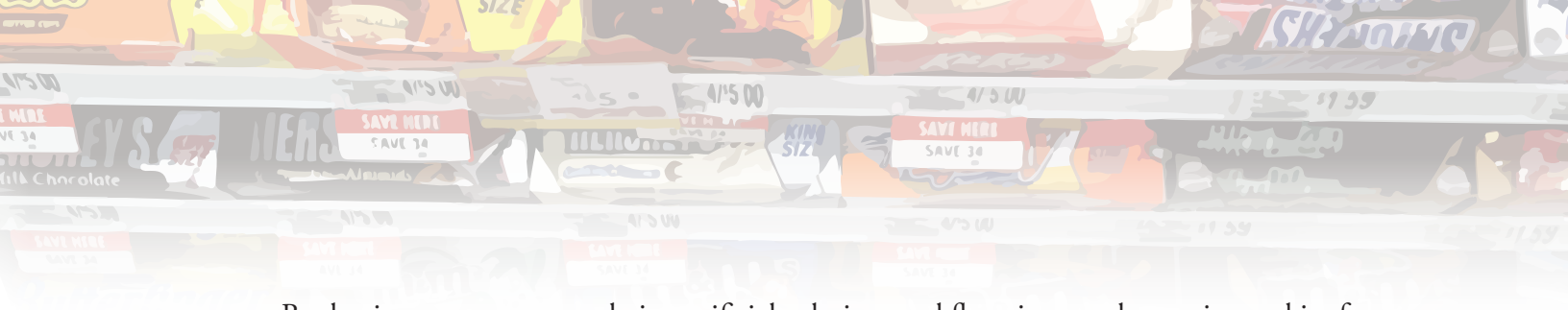
In retail stores, promotion techniques include store circulars (weekly store ads), shopping cart advertising, signs on displays that feature bright colors and characters, and tags that hang adjacent to a product to highlight its attributes, called shelf talkers (Ailawadi, 2009). Like Internet and other digital marketing, in-store marketing is becoming more targeted to the individual shopper. Mondelēz—which makes Cadbury chocolates, Trident gum, and Oreos—is building "smart shelves" for checkout aisles, which will use sensors to determine the age and gender of a shopper in order to show targeted advertisements at checkout to induce an impulse buy (Boulton, 2013). Digital marketers call this and other highly targeted techniques "path to purchase."



Product

Food companies also design products so that they will market themselves in supermarkets. First, formulations can induce consumption. Former Food and Drug Administration (FDA) Commissioner David A. Kessler describes how formulations that incorporate sugar, fat, and salt combine to stimulate the appetite: "Usually, the most palatable foods contain some combination of sugar, fat, and salt. … And it's that stimulation, or the anticipation of that stimulation, rather than genuine hunger, that makes us put food in our mouths long after our caloric needs are satisfied" (Kessler, 2009).

Second, the composition of the product can be a form of marketing. For example, by grouping crackers, meat, cheese, candy, and a drink together, Kraft makes Lunchables desirable to parents as a convenient all-in-one meal solution. Lunchables also appeal to children as something they can assemble themselves, which is reinforced by Kraft's ads, which emphasize independence and empowerment by telling kids, "All day, you gotta do what they say. But lunchtime is all yours" (Moss, 2013a). As a result, Lunchables have become a whole supermarket category, complete with knockoffs (Strom, 2013). Fruit snacks are another example.



By shaping sugar, wax or gelatin, artificial colorings and flavorings, and sometimes a bit of fruit juice or fruit puree into the form of a cartoon character, companies created a new category of food that they market to busy parents as a healthy snack. Thus, candy is marketed as a fruit substitute and has become a regular addition to many lunchboxes.

Third is the package design, which includes color, shape, size, font type, and the use of spokescharacters or licensed characters. Such design elements can influence both purchase decisions and later consumption (Glanz, 2012). Consider how Evian's swanlike neck or a Coors label that changes color to indicate temperature sets these products apart from their competitors (Sorensen, 2009). Companies put children's favorite characters on the front of cereals, phony fruit snacks, cookies, frozen dinners, and other products to increase sales (Kraak, 2015a). Marketing expert Douglas Van Praet (2012) describes one food company's ingenious scheme to capitalize on the unique sound its can makes when opened: "The manufacturer would play the sound at major concerts and sporting events, seeing an instant uptick in sales for their brand when they did so. Yet when consumers were asked why they suddenly chose that particular beverage over another they would say things like 'I haven't the faintest idea, I just fell for it.'"

Price

Food pricing also can be a form of marketing. Most shoppers are highly motivated by lower prices. Manufacturers and retailers influence customer choices by putting products on sale and providing in-store or manufacturers' coupons (Glanz, 2012).

People respond more to discounts in some categories of food products than others. For example, industry data show that people buy a lot more soda when it is on sale, but low prices do not have the same influence on purchases of salty snacks (Haimowitz, 2014).

Shoppers redeemed three billion manufacturers' coupons in 2012 (Inmar, 2013), some of which are dispensed at the register in response to what a customer has just purchased. Coupons boost sales, get shoppers to switch brands, and prompt shoppers to buy products in categories they do not normally buy (Inmar, 2013). As anyone who has seen the cable show "Extreme Couponing" knows, coupons can drive people to buy large amounts of unhealthy foods and beverages (TLC, 2014).

Store brands (also called private label) compete with national brands and influence purchasing decisions due to lower prices (Glanz, 2012). People may choose to buy Safeway Select crackers instead of Nabisco's Premium saltines, or Walmart's Great Value toaster pastries instead of Pop-Tarts.

On the other hand, high prices can be used to market to some customers by signaling a "premium" product, which entices them to indulge and enhances their enjoyment of the product (Lee, 2014). Real-world examples include expensive wines and ice creams.

Placement

Placement is often a subtle food marketing technique, but it is also one of the most pervasive and effective. The average supermarket stocks 30,000 to 50,000 items. People are unable to pay attention to the vast majority of the products in the store, typically buying 300 to 400 different products each year (Sorensen, 2009).

Food companies manipulate consumer behavior by making deals with retailers to put their foods and beverages in places in the store that boost their sales. One placement technique is the amount of space allocated to a particular product. "Shelf space has a promotional effect and large quantities of certain types of foods in neighborhood stores may affect social norms about what is acceptable to eat" (Rose, 2010). Manufacturers offer a seemingly endless variety of salad dressings, breakfast cereals, cookies, candy, or ice creams to capture as much shelf space for their brands as possible.

S'mores Cross-Promotion, Giant Foods, Bethesda, Maryland (2014)

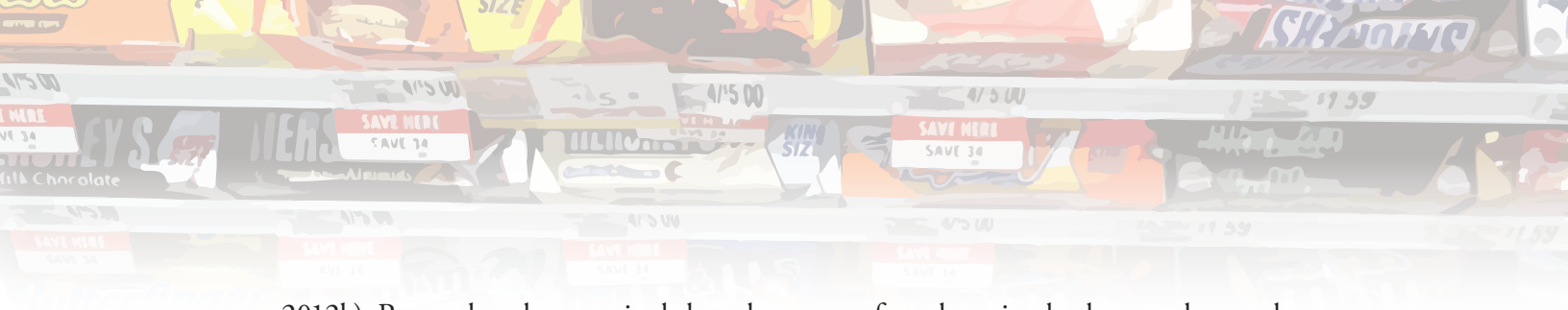
A second approach is the cross-promotion of different products to boost sales. Coca-Cola, for example, has the Snack Activation program, which encourages convenience store owners to market soda, candy, and salty junk food in specially priced bundles (Coca-Cola, 2014). Additionally, PepsiCo, which owns both Pepsi and Frito-Lay, has for years used in-store placement to sell sodas and chips together (Bezawada, 2009).

Checkout provides an illusion of choice where little choice is offered. What appears to be "choice" is really a sophisticated marketing strategy to generate impulse buys. No matter where you are in the country, what the season is, or what kind of store you are visiting, checkout invariably offers the same array of unhealthy foods and beverages. There may be different flavors and varieties of items, but the foods are almost all candy, chips, and snack cakes.

A third placement technique is putting tempting products in the path of customers. For example, convenience stores place candy on the path to the beverage cooler (Sorensen, 2009). Though customers come in for a drink, they leave with a drink and a candy bar.

Finally, the location where a product is found, such as a middle shelf or at the end of an aisle (called an end cap) can prompt purchases. To test the effect of placement on retail behavior, researchers placed a particular brand of potato chips on a high, middle, or low shelf. They found that people bought more packages of the chips when they were on the middle shelf, rather than on a high or low shelf (Sigurdsson, 2009).

Putting products at checkout and on end-of-aisle displays makes them highly visible and convenient. Eye-tracking studies have shown that these displays attract attention from a wide range of individuals, regardless of their shopping goals or personal characteristics (Cohen,



2012b). Researchers have posited that placement of products in checkout and on end caps may "communicate a social norm of an acceptable meal or snack (regardless of the Dietary Guidelines) and signal a bargain" (Kerr, 2012).

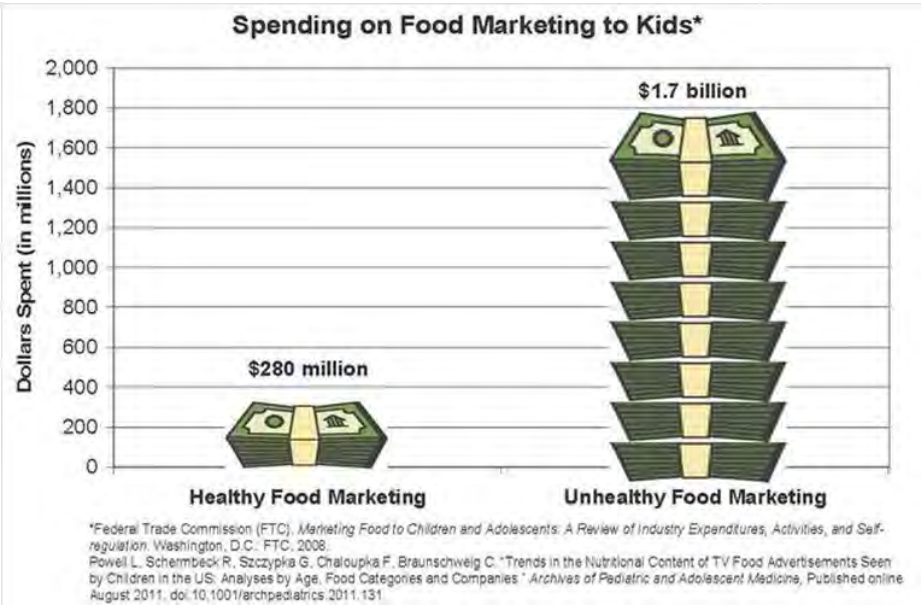
A correlation also exists between the placement of chips, candy, cookies, and soda in "checkout edge areas"—defined as the displays at the beginning of checkout aisles—and the purchase of these foods and drinks. One study of 40 stores found that placement in this part of the checkout explains approximately 12 percent of the variance among how much of these foods stores sell (Kerr, 2012). Additionally, the placement of chips, candy, cookies, and sugary drinks at checkout and on the end caps facing the checkout area correlated with shoppers spending less on produce. "The more promotions of less-healthy food items in [these] key locations, the lower percentage spent on fruits and vegetables" (Kerr, 2012).

Food Marketing to Children

Food company and retailer marketing also directly targets children. In 2009, food companies reported to the Federal Trade Commission that they spent a total of $1.8 billion on marketing directed to children. That amount includes expenditures for advertising, toy premiums, prizes, on-package marketing, in-store display materials, marketing in schools, and celebrity endorsements (FTC, 2012). (It does not include the marketing that children see that is aimed at adults.)

Children are a target because they control significant spending. Children themselves spend $25 billion of their own money, and they influence another $200 billion in household purchases per year (Strasburger, 2001). Teens spend $140 billion per year of their own money, 20 percent of which is spent on food (Strasburger, 2001; PiperJaffray, 2013).

According to a comprehensive review by the National Academies' Institute of Medicine, television food advertising affects children's food choices, food purchase requests, diets, and health (IOM, 2006). The American Psychological Association concluded that until the age of about 8 years old children are unable to understand the persuasive intent of advertisements, and more recent research reveals that some children as old as 11 or 12 may not understand advertisements' persuasive intent (Kunkel, 2004; Carter, 2011). Nonetheless, in 2009, 86 percent of televised food and beverage advertisements seen by children ages 2 to 11 were for products high in saturated fat, sugar, or sodi-



*Federal Trade Commission (FTC). *Marketing Food to Children and Adolescents: A Review of Industry Expenditures, Activities, and Self-regulation*. Washington, D.C.: FTC, 2008.
Powell L, Schermbeck R, Szczypka G, Chaloupka F, Braunschweig C. "Trends in the Nutritional Content of TV Food Advertisements Seen by Children in the US: Analyses by Age, Food Categories and Companies." *Archives of Pediatric and Adolescent Medicine*, Published online August 2011. doi:10.1001/archpediatrics.2011.131

um (Powell, 2011). Cereal manufacturers, for example, advertise their healthiest products to adults and their least healthy products to children (Harris, 2012). In addition, many food companies engage in target marketing based on ethnicity or race, resulting in some children and teens getting a double dose of marketing: they are exposed to general marketing and to additional marketing targeted at them based on their race or ethnicity (BMSG, 2010).

Simply teaching children about advertising is not enough to protect them from its influence. Even when children are aware that commercials are trying to sell them something, that knowledge often is no defense against the ads' persuasive effect. Researchers suspect that children's knowledge that claims are too good to be true may not dampen their enthusiasm for appealing snacks or toys, or, alternatively, that children simply do not analyze commercials when they watch them, even if they are developmentally capable of doing so (John, 1999). Additionally, public health experts advise that older children, ages 12 to 14, are particularly vulnerable to food marketing due to their greater independence, susceptibility to peer influence, and higher levels of media consumption (Harris, 2014). In addition, tweens and young tweens have underdeveloped abilities to weigh long-term risks and balance those against immediate perceived benefits. Children of this age have the capacity to critique advertisements when they are prompted to do so, but when absent such prompts, they are "likely to believe advertising messages and accept misleading claims" (Harris, 2014).

8 Ways Supermarkets Get You to Buy More (Often Junk) Food

1. Supermarkets design their stores to facilitate specific foot traffic patterns, and then they put certain foods in your path.
2. They set up displays that pair products together. Looking at strawberries? It's not uncommon for supermarkets to use berry season to cross-promote shortcakes and whipped cream. Two more examples: chips and soda; pasta and Parmesan cheese.
3. They give out "free" samples to whet your appetite and spur more food purchases.
4. Supermarket bakeries make the whole store smell good. They know that the scent of baking bread or cupcakes can get people to buy more.
5. They put sugary cereals with cartoon characters at children's eye level to provoke requests for those cereals.
6. Supermarkets use end caps to get people to buy more. Customers often think that because a food item is on a display at the end of the aisle, the price is reduced. However, end caps drive increased sales, even if the price is the same as usual.
7. They use buy-one-get-one-free specials. The signs and the suggestion to get a second box or bag can prompt customers to buy more than they had planned.
8. Supermarkets spur impulse buys of everything from candy bars and full-calorie soda to hand sanitizer and gift cards by displaying them at checkout, where customers must stand in line. Checkout boosts sales so much that manufacturers pay big money to get retailers to place their products there.

The placement of foods and beverages in stores can affect children's preferences. Children are more likely to make purchase requests for foods placed at their eye level in the supermarket (Ebster, 2009). Researchers examined the nutritional quality of foods directed to children in a Canadian supermarket. Excluding candy, sugary drinks, cakes, and potato chips—which most parents know are unhealthy—

the researchers still found that 89 percent of the food products marketed to children were of poor nutritional quality, primarily because they contained too much salt, added sugars, or fat. Among the nutrition-poor products were breakfast cereal, crackers, phony fruit snacks, granola bars, pasta, frozen waffles, cheese, and yogurt drinks (Elliott, 2008).

Parents know from experience that ads and cartoon characters on food packages affect not only which foods their children ask them to purchase, but which foods kids are willing to eat. Studies also show that character marketing affects children's food choices (Kraak, 2015a; Kraak, 2015b). Toddlers can recognize brands in the store before they are able to read (John, 1999).

Companies design the look of their products to appeal to children, often using colors like red to signal sweetness and excitement, employing cartoonish script or a crayoned font, or portraying cartoon characters that appeal to children (Elliott, 2008). Companies use licensed characters like SpongeBob SquarePants and their own "spokescharacters," such as the General Mills' Trix Rabbit on packages, and they shape products like fruit snacks and chicken nuggets into the shape of real fruit and popular characters. Additionally, food manufacturers use packaging to be attractive to children by designing packages to include claims or allusions to "fun" and "play," or puzzles, games, and competitions (Elliott, 2008).

Gansito Pastry Packaging Prompts Kids to Create a "Gansitoy"

When shopping, young children request candy and toys directly, while elementary-school students employ bargaining, compromise, nagging, and persuasion to convince their parents to buy them products or to allow them to do so themselves.

Children ages 3 to 5 are most likely to pester their parents for treats and toys while shopping (Buijzen, 2008). Based on decades of research, child development experts have explained what shopping is like from the child's perspective: "Children of this age have great difficulty delaying gratification of their desires. If preschoolers see some item as attractive, they tend to focus all their attention on the enticing aspects of the stimulus. However, although children in this age group are more active than infants and toddlers in expressing desires, they are still highly dependent on their parents to fulfill these desires. Furthermore, they are in the egocentric phase of social development. Due to their limited abilities to take a perspective other than their own, their influence attempts mostly involve relatively simple strategies, such as asking, demanding, nagging, or showing anger. Such direct influence attempts often lead to conflicts between parents and children" (Buijzen, 2008).

In one study, researchers unobtrusively observed parents shopping with their children in supermarkets and toy stores. In 1,032 interactions between parents and their children—most of which occurred in the supermarkets—12 percent involved children demanding, begging, crying, and expressing anger to coerce their parents into purchasing foods they wanted, or repeating requests that parents had already declined or ignored (Buijzen, 2008).

By the time children are 12 to 15 years old, their repertoire includes a wide array of techniques, including offers to pay for part of the purchase, pouting, guilt trips, and sweet talk (John, 1999). Having junk food at eye level, on end caps, and at checkout creates an environment that results in kids clamoring for sweets, sugary drinks, and salty junk food.

Parents are surprisingly resilient to children's demands for particular foods and beverages, refusing to make the purchase more often when the child used these coercive techniques than during other interactions. In the study mentioned above, parents said no three times for every time they said yes (Buijzen, 2008). In other studies, mothers have been observed saying no as many as nine times for every time they say yes (Holden, 1983).

Many children also make purchases independently. A 2009 study that examined 833 purchases by fourth-, fifth-, and sixth-graders found that students who bought snacks from urban corner stores most often purchased chips and candy and that 84 percent of the beverages they bought were soda and other sugary drinks. The average purchase added 350 calories and almost no positive nutrients to the child's diet (Borradaile, 2009). Another study showed that older children and teens—ages 10 to 18—are more likely to drink sugary drinks every day when they can easily walk to food stores, including supermarkets and convenience stores, in their neighborhoods (Hearst, 2011).

The Typical American Diet Promotes Chronic Disease

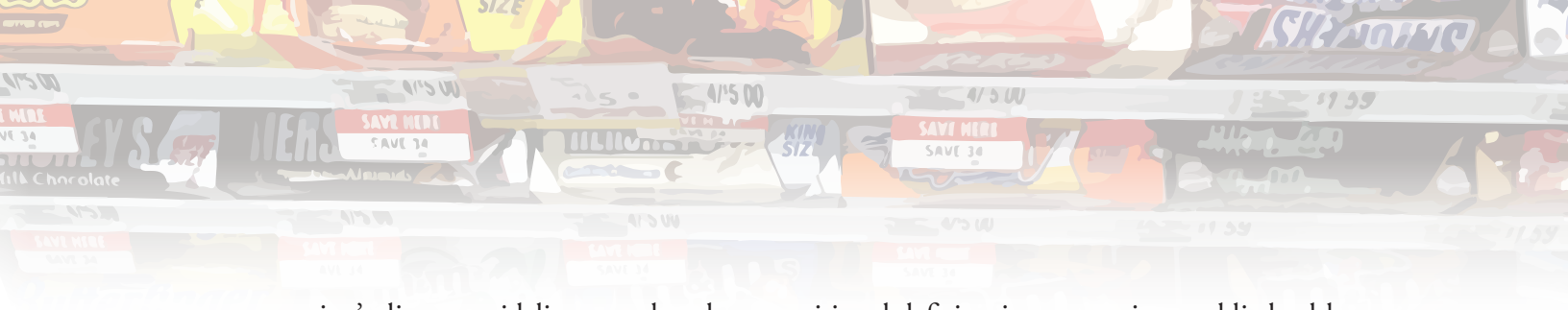
Americans are exposed to a food environment with too many calories, saturated fat, salt, and refined sugars, and without enough fruits, vegetables, and whole grains for good health. Poor diets and obesity can lead to deadly diseases and cause disabilities, resulting in high health care costs for families, businesses, and taxpayers.

Despite overconsumption of food generally, Americans are not getting enough of the nutritious foods and nutrients they need for good health. Federal dietary guidelines recommend that people eating 2,000 calories per day consume 4.5 cups of fruits and vegetables. A typical American, however, eats only 1 cup of fruit and 1.6 cups of vegetables per day (USDA, 2010). Similarly, less than 2 percent of Americans eat the recommended amount of whole grains (50 percent of grains as whole grain, which is the equivalent of three slices of whole grain bread per day) (NCI, 2014; USDA, 2010). Americans also consume only about 75 percent of the calcium they need, which is found in dairy, certain vegetables, and fortified soy products, and is essential for bone health and protective against osteoporosis (USDA, 2010). As a result, the federal agencies entrusted with creating the

> **"Eating patterns** that are high in calories but low in nutrients can leave a person overweight but malnourished" (USDA, 2010).

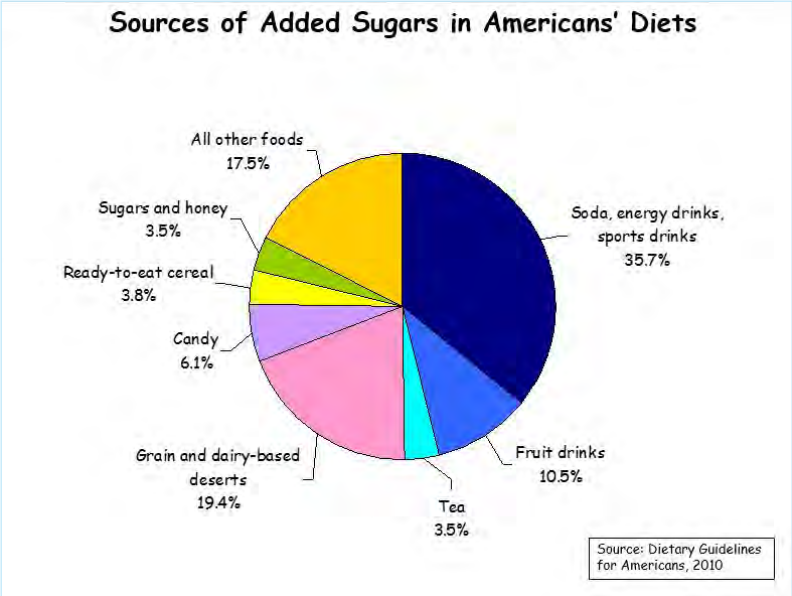
How Do Typical American Diets Compare to Recommended Intake Levels or Limits?

Adapted from USDA, 2010



nation's dietary guidelines say that these nutritional deficiencies pose serious public health concerns (USDA, 2010).

In the place of fruits, vegetables, whole grains, and calcium-rich foods, products rich in saturated fat and added sugars contribute to more than one-third of the calories in the American diet without providing much nutritional benefit. Sugary drinks are the biggest single source of calories and added sugars for both adults and children and the only food or beverage directly linked to obesity to date (USDA, 2010; Malik, 2006). The next biggest source of added sugars is grain-based desserts (cookies, cakes, doughnuts, and pastries), which also provide significant amounts of saturated and trans fats (USDA, 2010). Candy and chips (along with other fried potatoes) are also among the top 25 sources of calories in the American diet (USDA, 2010).



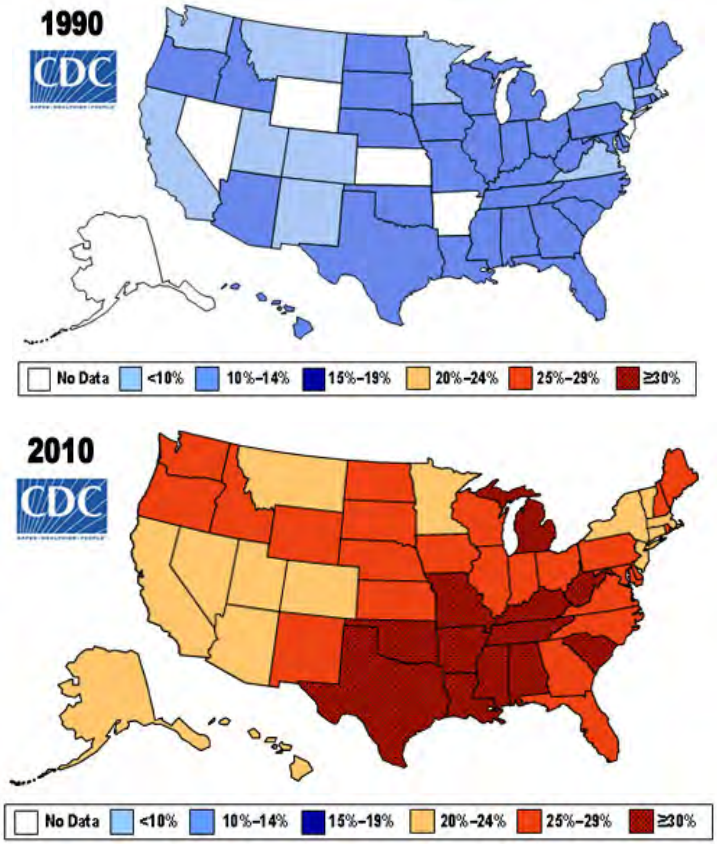
A handful of big companies dominate the American snack and beverage markets. PepsiCo (Gatorade, Propel, Mountain Dew, Doritos, Tostitos, Lay's, Ruffles, Rold Gold, SunChips) has 75 percent of the market in sports drink sales, 31 percent of the market for full-calorie carbonated soft drinks, 58 percent of the potato chip market, and 21 percent of the pretzel market (FWW, 2013). Coca-Cola (Powerade, Sprite) has 24 percent of the sports drink market and 34 percent of the full-calorie carbonated soft drink market. Mondelēz (Oreos, Newtons, Teddy Grahams, Chips Ahoy) and Kellogg (Keebler, Chips Deluxe, Fudge Shoppe, Sandies) dominate cookies, together making up more than 50 percent of the market. Hershey (Reese's, KitKat, York, Almond Joy, Jolly Rancher, Twizzlers) has the biggest share of both the chocolate and non-chocolate candy market, with Mars (M&Ms, Snickers, Twix, Skittles, Starburst) a close second.

The number one reason that young adults cannot enlist in the military is that they are overweight or obese. About 1 in 4 young American adults is ineligible to serve for this reason (Mission Readiness, 2012).

These companies' products—sweetened and salted processed foods, refined grains, and sugary drinks—undermine healthy diets, contributing extra calories, saturated fat, sodium, and sugars while simultaneously displacing nutrient-rich foods.

Excess salt intake in particular, along with obesity, can cause high blood pressure (hypertension), which now affects 33 percent of U.S. adults and is a major risk factor for heart disease, congestive heart failure, stroke, and kidney disease (Go, 2013). Poor diet also is associated with risk of post-menopausal breast cancer, endometrial cancer, colon cancer, kidney cancer, mouth cancer, and cancers of the pharynx, larynx, and esophagus (USDA, 2010; Anand, 2008).

Significantly, excess calorie intake has resulted in a dramatic rise in the number of Americans who are obese since the 1970s (USDA, 2010). Obesity rates have doubled in adults and tripled in children (USDA, 2010). Although obesity rates are beginning to level off, more than 100 million Americans are obese, and two-thirds of adults and one-third of children are overweight or obese (Ogden, 2012; Fryar, 2012; Ogden 2014). In the past four decades, people's exercise patterns have remained relatively stable, while the food environment has changed considerably and daily calorie intake has increased (Flatt, 2011; Lin, 2012).



(CDC, 2015a)

People who are obese are more likely to develop type 2 diabetes, coronary heart disease, and certain cancers (Olshansky, 2005; USDA, 2010; Calle, 2003). A study in the American Journal of Public Health found that obesity was responsible for approximately 18 percent of all adult mortality between 1986 and 2006 (Masters, 2013). The effect will likely increase in the near future as younger generations, who experienced obesity earlier in life and have higher levels of obesity, get older (Masters, 2013). As a result, the youth of today may not live as long as their parents (Olshansky, 2005).

Obesity-related diseases can also result in disability and high health-care costs. Diabetes, for example, is a leading cause of blindness and lower limb amputations (ADA, 2013). Diet- and obesity-related heart disease, stroke, and osteoporosis also are significant causes of disabilities

Variable[b]	NHANES I 1971-1974	NHANES II 1976-1980	NHANES III 1988-1994	Continuous NHANES 1999-2002	Continuous NHANES 2003-2006	Continuous NHANES 2007-2010
	← mean±SE →					
Energy from main meals[d] (kcal) (among all-population average)						
Men (n=28,945)	1,904±21	1,894±23	2,010±22	1,968±25	2,030±15	1,967±22
Women (n=32,621)	1,246±14	1,220±12	1,363±14	1,395±17	1,405±16	1,358±15
Energy from snacks[e] (kcal) (among all-population average)						
Men (n=28,945)	502±15	538±13	647±16	666±15	666±18	634±13
Women (n=32,621)	296±7	295±7	399±8	444±9	424±11	438±8

(Kant, 2015)

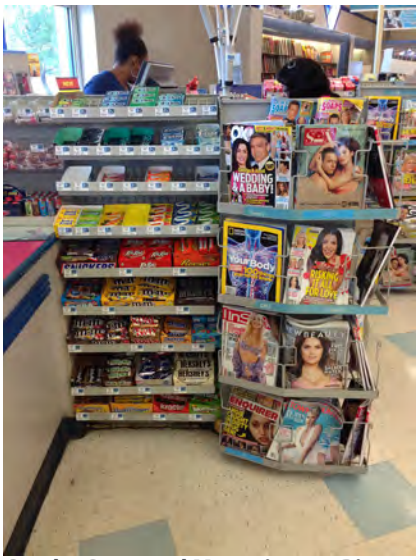
(CDC, 2015b; NIH, 2012). The CDC estimates that medical care associated with adult obesity costs more than $100 billion, and Medicaid and Medicare pick up more than 40 percent of the bill (CDC, 2011; Trogdon, 2012).

The journal *Pediatrics* published a study in which researchers gave children unlimited amounts of chips, cheese, and/or vegetables to eat while watching television. The kids eating vegetables consumed far fewer calories than the kids eating chips or cheese, and they reported feeling fuller than the kids who ate as much cheese as they wanted (Wansink, 2013).

Americans today snack more than previous generations and eat more salty junk foods and candy as snacks now than they did in the 1970s (Piernas, 2010a). Ninety percent of adults now snack on a regular basis, with sugary drinks, chips, and candy among the most common choices (NHANES, 2011). On average, adults have one or two snacks a day, but many snack as often as three or four times a day (FMI, 2009; NHANES, 2011). Adults who eat four or more snacks per day consume almost 50 percent more calories than adults who do not snack at all (NHANES, 2011). In a 2010 study of 2,800 adults in California and Louisiana, salty junk food, cookies, candy, and non-diet soda contributed a significant number of calories to people's diets, ranging from an average of 386 calories for women in California to 725 for men in Louisiana (Cohen, 2010).

Likewise, the vast majority of children and teens get more calories from added sugars and solid fats (including saturated fat) than is recommended (Krebs-Smith, 2010). Most children now snack daily, eating two snacks a day on average (Piernas, 2010b). The National Health and Nutrition Examination Survey found that older children and teens, ages 12 to 19, consume an average of 526 calories during snack times. More snacking correlates with higher total calorie intake, suggesting that eating junk foods as snacks does not displace meals but supplements them, which may contribute to obesity (NHANES, 2010).

It is no accident that snacking is associated with consumption of unhealthy foods. Food manufacturers have co-opted the words "snack" and "snack foods" to mean chips, pastries and snack cakes, cookies, candy, and other nutrition-poor foods by marketing junk foods and soda as snacks (Farley, 2009b). In this way, they are transforming what could be an opportunity to eat healthy foods like fruits and vegetables into a regular occasion to consume empty calories. And their marketing efforts are working. An industry publication reports that the average American eats over 1,000 "snack-oriented convenience foods" each year, and that 8 out of 10 snacks consumed at home consist of these junk foods rather than fruits or vegetables (Progressive Grocer, 2013).



Candy, Gum, and Magazines at Rite-Aid Checkout, Washington, DC (2014)

Getting Products into Checkout Is a Powerful Marketing Strategy

American households shop for food an average of 1.7 times per week (Beatty, 2013). On every shopping trip every shopper has to pass through checkout. There, customers' behavior is manipulated by unhealthy food and beverage marketing. And, the food at checkout is often positioned to attract the attention of children.

Many retail outlets, from grocery stores to hardware stores, use the checkout area to entice people to spend more money. Convenience stores, which sell less tobacco and gasoline than they used to, display candy at the register to boost impulse sales (CSD, 2006; CST, 2011). Drug stores, home goods stores, clothing stores, and even automotive-supply stores sell food at checkout (Farley, 2009b). By prompting people to buy candy, sugary drinks, and salty snacks at checkout, food companies are adding calories to Americans' diets and adversely affecting their health.

The average convenience store sells approximately $4,000 of candy each month (CST, 2011). Single-serve junky snack food sales generate about $14 billion in sales annually across all convenience stores (CSD, 2006).

Companies Use Checkout to Drive Impulse Sales of Unhealthy Foods

A recent study by researchers at the University of Illinois' Bridging the Gap program examined 8,617 stores—including supermarkets, drug stores, convenience stores, and dollar stores—across 468 communities throughout the United States. They found that 88 percent of those stores displayed candy at checkout. Supermarkets were the worst, with 97 percent pushing candy and 93 percent selling sugar-sweetened beverages at checkout. In contrast, only 24 percent of stores sold bottled water at checkout, and even fewer (13 percent) sold fresh fruits or vegetables. All types of food stores were more likely to sell sugary drinks than water at checkout (Barker, 2015).

The average supermarket has at checkout:

185 linear feet of candy
10,710 grams of sugars
6,120 grams of fat
127,500 calories

Candy, Gum, and Energy Drinks at Safeway Checkout, Washington, DC (2014)

Another study examined stores in New Orleans and found that none of the eight supermarkets in the study displayed fruits or vegetables within one meter of the cash registers. Instead, the supermarkets most often displayed candy, salty snack foods, and carbonated beverages at checkout (Miller, 2012).

CSPI likewise examined the prevalence and healthfulness of foods and beverages at checkout in 30 chain food and non-food stores in the Washington, D.C. area, and found that the majority of food and beverage checkout offerings were candy, gum, energy bars, chips, cookies, soda, and other

sugary drinks. Unhealthy items were promoted via checkout at a wide variety of stores, including non-food stores, such as hardware, bed and bath, toy, clothing, and drug stores. In fact, the vast majority (86 percent) of non-food stores in the survey carried foods, beverages, or both at checkout (Fielding-Singh, 2014).

Magazines and Candy at Walmart Checkout, Washington, DC (2014)

Candy occupies more space at supermarket checkouts than any other food or beverage category—approximately 185 linear feet in an average supermarket—and can be found in 83 percent of checkout lanes in supermarkets (Masterfoods, 2010a). Beverages come in fourth by space, following magazines and gum (Masterfoods, 2010a). Soda takes up about half of the 63 linear feet typically devoted to beverages at checkout; the remaining space is devoted to bottled water, energy drinks, and non-carbonated drinks, such as coffee drinks. Chips and other salty junk foods occupy less space, but are still marketed in 50 percent of supermarket checkout lanes (Masterfoods, 2010a).

Convenience stores also promote an unhealthy mix of products at checkout. Researchers examined the foods displayed at checkout in convenience stores within 800 meters (approximately a half-mile) of public junior and senior high schools in St. Paul and Minneapolis, Minnesota. They found that every one of the 63 stores sold candy, gum, chips, and soda at the checkout, whereas fewer than half offered options the researchers characterized as healthier, such as nuts, seeds, fresh fruit, water, or granola bars. Three times as many of the stores sold candy at checkout as nuts or seeds, and twice as many sold soda as water (Gebauer, 2011). In a New Orleans study, stores other than supermarkets (convenience stores, drug stores, and general merchandise stores) most often displayed candy, chips, other salty snack foods, and doughnuts or pastries at checkout (Miller, 2012).

Supermarkets sell about $5.5 billion of food, drinks, and other food and non-food products at checkout each year (Masterfoods, 2010a; FMI, 2012). Beverages account for 26.6 percent of total checkout dollar sales, and candy accounts for another 14.7 percent (FMI, 2012). (Magazines, gum, and mints are also significant categories.) The Food Marketing Institute estimates that checkout sales account for 1 percent of total sales, but 1.3 percent of store profits (FMI, 2012).

Purchases from checkout typically do not displace purchases from elsewhere in the store. Industry research across six supermarket chains revealed that when stores sell an item at checkout, people spend more than they otherwise would (Masterfoods, 2010b). A study of Australian consumers found that shoppers who buy candy and soda at the checkout are often the same people who ignore those items in the main aisles (Miranda, 2008). Food companies know that too. In 2013, a trade publication quoted Timothy LeBel, vice president for Mars

Chocolate North America, as saying, "Nearly two-thirds of consumers do not visit the candy aisle, so retailers should put candy on display in high-traffic locations and include power brands and consumer-relevant packs." Mars positioned itself as part of the "solution" by helping "retailers capture impulse purchases through secondary displays," including at checkout (Goldschmidt, 2013).

Location, Location, Location

It is no accident that impulse buys are marketed at checkout. Checkout is one of the locations in the store most likely to prompt purchase and can be as much as eight times as profitable per square foot as other parts of the store (Mogelonsky, 1998). When researchers placed water in checkout coolers in four urban supermarkets in Philadelphia and Wilmington, they effectively boosted sales of bottled water above sales at four other urban supermarkets where no change was made (Foster, 2014).

Retailers track shopper movements using cart tags and antennae to create detailed maps that depict the areas with different levels of foot traffic in their stores (Sorensen, 2009). The dominant traffic follows the perimeter of the store, including the checkout area (Sorensen, 2009; Dietz, 2009). Traffic is lighter in the aisles in the center of the store, meaning that some shoppers skip the soda or candy aisle altogether. In fact, a 2005 Coca-Cola shopping study described the center of the store as a "dead zone" (Moss, 2013a). Thus, food manufacturers seek secondary placements of their products in other areas of the store that get more traffic.

Secondary placements increase the likelihood a shopper will encounter the product, resulting in increased sales, particularly for impulse foods (Miller, 2012). Because every shopper must pass through and often spend significant amounts of time in the checkout area relative to other parts of the store, checkout is prime real estate in retail. At grocery stores, the typical wait time ranges from 3.5 to 5 minutes—time that food manufacturers use to market their products to shoppers (Masterfoods, 2010a).

Companies use various strategies to trigger impulse purchases at checkout. One is the placement of products in attractive coolers and display racks. Mars Chocolate and Wrigley have introduced checkout racks illuminated with LED lights that they say can boost sales by 10 to 12 percent (Supermarket News, 2014b). Stores employ more subtle cues, too. For example, a chewing gum manufacturer successfully boosted sales at checkout by 40 percent by providing visual "refreshment cues" near checkout (Sorensen, 2009).

In Norway, researchers swapped out candy and gum at checkout in two stores with dried fruit and dried fish. During the first phase of the experiment, the researchers did not announce the change or promote the new foods in any way other than putting them by the registers. During the next phase of the study, they added signs promoting the health benefits of the change. Sales of the new foods increased during both phases of the intervention, and sales of candy, which had been relocated away from checkout, gradually decreased. Interestingly, the addition of signs at checkout did not boost sales of the healthier items more than placement in the checkout aisle alone (Sigurdsson, 2014). The study suggests that placement at checkout is a more powerful marketing tool than *promotion* is.

Placement Fees

The placement of foods is such a powerful tool to influence purchase decisions that manufacturers pay retailers handsomely to put their products in checkout aisles and on end caps. The payments are called "slotting fees," "promotional fees," "staying fee," "pay to stay," "free fill," "display fees," or "trade promotions." Although such payments originated for placement in supermarkets, they are now common in many retail stores (Klein, 2007).

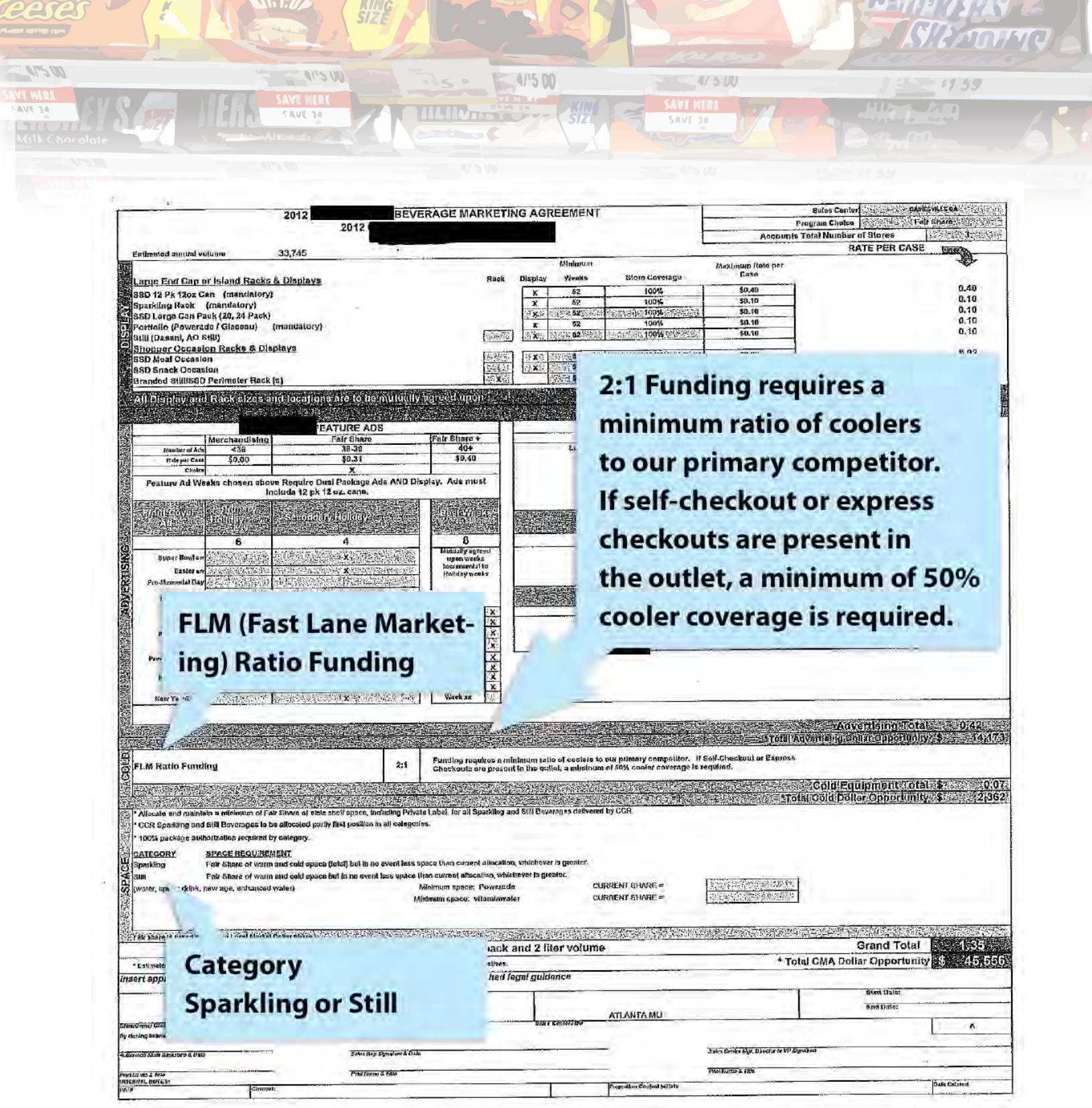
"Trade promotion" refers to retail marketing efforts executed between manufacturers and retailers. The financial arrangements can take several forms. Manufacturers may give retailers cash payments, discounts on merchandise ("off-invoice discounts"), financial incentives for the units sold ("pay for performance"), or money to be spent on local advertising efforts ("cooperative advertising allowances") to promote their products (Ailawadi, 2009).

Placement fees help to determine which products customers have access to and how visibly those products are marketed to them in-store. Candy and soda contracts are a driving force behind the aggressive marketing of products at checkout. One industry analyst recounts: "Since the late 1960s, publishers, confectioners, their suppliers and distributors (and later beverage companies) have all been as effective as Washington lobbyists in convincing retailers that their interests are aligned and their product mix will create the most satisfying experience for the retail customer" (Novick, 2011).

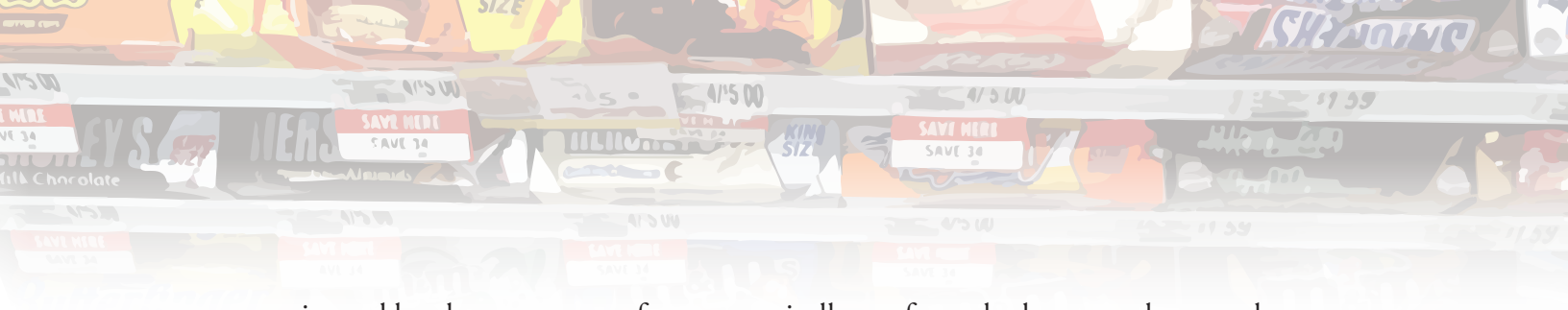
The two biggest manufacturers of soft drinks—PepsiCo and Coca-Cola—also sell Aquafina (PepsiCo) and Dasani (Coca-Cola) bottled water. In some instances, companies' fast lane marketing agreements may have sufficient flexibility to allow bottled waters to replace sports drinks and non-caloric soda or seltzers to replace full-calorie sodas in checkout coolers. However, such substitutions likely would require the buy-in of the bottler/distributor, since planograms typically require the placement of specific products at checkout.

In the Philadelphia study where researchers boosted bottled water sales by placing bottles at checkout, they noted some difficulty in ensuring the placement of water in the coolers. Unlike the other interventions that they tested, the stores complied with keeping the coolers stocked with water and low-calorie drinks alongside the sugary drinks only 42 percent of the time. (In contrast, stores complied with better placement of skim milk, healthy frozen meals, and lower-sugar cereals approximately 90 percent of the time.) The researchers concluded that it was difficult to manage product placement in the coolers because the coolers were "being stocked by product employees rather than store employees, which made store-level implementation more difficult to manage" (Foster, 2014). This is consistent with a story that Michael Moss recounts in his book Salt, Sugar, Fat: "I met one [convenience-]store owner in Philadelphia who tried to improve the nutritional profile of his offerings by positioning bananas up front, only to be scolded by a soda delivery crew, who claimed this space as their own" (Moss, 2013a).

The contracts between retailers and manufacturers are called Cooperative Marketing Agreements (CMAs) and include "fast lane marketing agreements" that provide for placement at checkout for a specified period of time. The duration of such contracts is typically one year (Klein, 2007). CMAs specify the amount of space and location allocated to particular brands or products. They also indicate how much extra a manufacturer will pay to have products displayed at different locations within the store. Although both manufacturers and retailers benefit from increased sales



Redacted Cooperative Marketing Agreement



triggered by placement, manufacturers typically pay for such placements because the manufacturer's profit margin on these sales tends to be larger than the retailer's (Klein, 2007).

Food-manufacturer employees or contractors—such as distributors, bottlers, or brokers—are usually responsible for stocking the products at checkout (Moss, 2013a). This "front-end merchandising" is more than simply putting products on the shelf; the manufacturers' employees develop and follow precise planograms that depict where products go on the shelf, implement the contract between the food company and the retailer, and change the look of the displays at least twice yearly (Dietz, 2009). As a result, food and beverage companies have tremendous control over exactly which products are marketed at checkout (Novick, 2011).

According to Mark Heckman, former vice president of marketing at Marsh Supermarkets, retailers tend, "almost to a fault, to let manufacturers dominate their stores with displays just because manufacturers have figured out that's what drives their sales." He describes the placement fees in the supermarket as being "almost real estate rental" of shelf space (Sorensen, 2009).

The fees paid by manufacturers to retailers is proprietary information that is largely unavailable to the public. One supermarket expert, Herb Sorensen (2009) has estimated that supermarkets make more money from placement fees than from profit on sales to customers. As he puts it, "supermarkets make their money by buying (from the supplier), not by selling (to the shopper)."

Moreover, the nonprofit American Antitrust Institute reports that these placement fees are the second-largest expense for some food manufacturers, after the cost of producing goods (AAI, 2013). Twenty years ago, placement fees ranged from $3,000 for placement of a product in a regional chain to as much as $1 million for a supermarket chain to replace a competitor's products with its own products (Pyle, 1995). Nearly a decade later, an academic journal reported that food manufacturers spent $9 billion per year on placement fees (Jennings, 2003). Among the contracts the authors reported were a placement fee of 50 cents per box to get sugar-free cookies into 100 stores and a fee of $375,000 for placement of an ice-pop in New York City area stores (Jennings, 2003).

Placement fees can consist of cash payments, discounts, incentives for sales, and a variety of other financial arrangements. Food companies, for example, often provide display unit, shelving, and promotional signage for small establishments, such as independently owned convenience stores. One such program promises store owners: "You benefit through the availability of more attractive and sophisticated checkout displays that would otherwise be cost-prohibitive and unavailable." In exchange, the store owners must agree to use the racks for the companies' products for three years (Impulse Marketing, 2014).

Getting a new product into a national chain may cost as much as $1.5 to $3 million (Freudenberg, 2014). In general, placement fees are closely guarded by the industry, perhaps because their use by food manufacturers has been criticized as preventing new companies from entering the market. Companies may keep the information hidden because they fear prosecution for anticompetitive behavior (Pyle, 1995; Teinowitz, 2000).

Thus, food marketing to children may well exceed the $1.8 billion that companies reported that they spent to the Federal Trade Commission, due to placement fees (FTC, 2012). The

Commission instructed companies to disclose payments for "the height of placement or display," but only for promotions that, "pursuant to a marketing plan or industry practice, were designed to appeal to children" (FTC, 2012). This narrow framing likely allowed many companies to exclude CMAs, even for child-oriented foods and beverages, where placement could appeal not only to children but also to parents. Companies reported $113 million for all child-directed in-store promotions and packaging. However, because most placement fees were excluded from reporting, children's marketing exposure in retail settings—particularly marketing via product placement—is inevitably much higher than that figure indicates.

"Habit: The 95 Percent of [Eating] Behavior Marketers [and Customers] Ignore"

Neale Martin entitled his 2008 book on consumer behavior *Habit: The 95 Percent of Behavior Marketers Ignore*. Although scientists have known for years that the brain unconsciously controls autonomic functions, such as the heart's beating and breathing, researchers have more recently discovered that people perform many other highly complex behaviors without conscious thought. That includes many food decisions. For example, most repeat purchases are the result of unconscious habits, rather than deliberate decisions (Van Praet, 2012).

> **"We must avoid** the mental model that a customer makes a rational comparison of product attributes, as if making a list of pros and cons. Most decisions happen very rapidly, with significant processing done outside conscious awareness" (Martin, 2008).

When food company researchers interviewed 1,300 shoppers, 60 percent said they had bought candy from checkout in the past six months. Forty-five percent reported they had bought carbonated beverages from checkout, and 25 percent had purchased chips or other salty junk food from checkout (Masterfoods, 2010b). For some shoppers, buying candy or sugary drinks from checkout is a regular habit. Of the people who buy candy from checkout, 62 percent say they do so at least once a month. The habit is also strong for carbonated beverages, with 52 percent of buyers reporting that they buy carbonated beverages from checkout at least once a month (Front-End Focus, 2014).

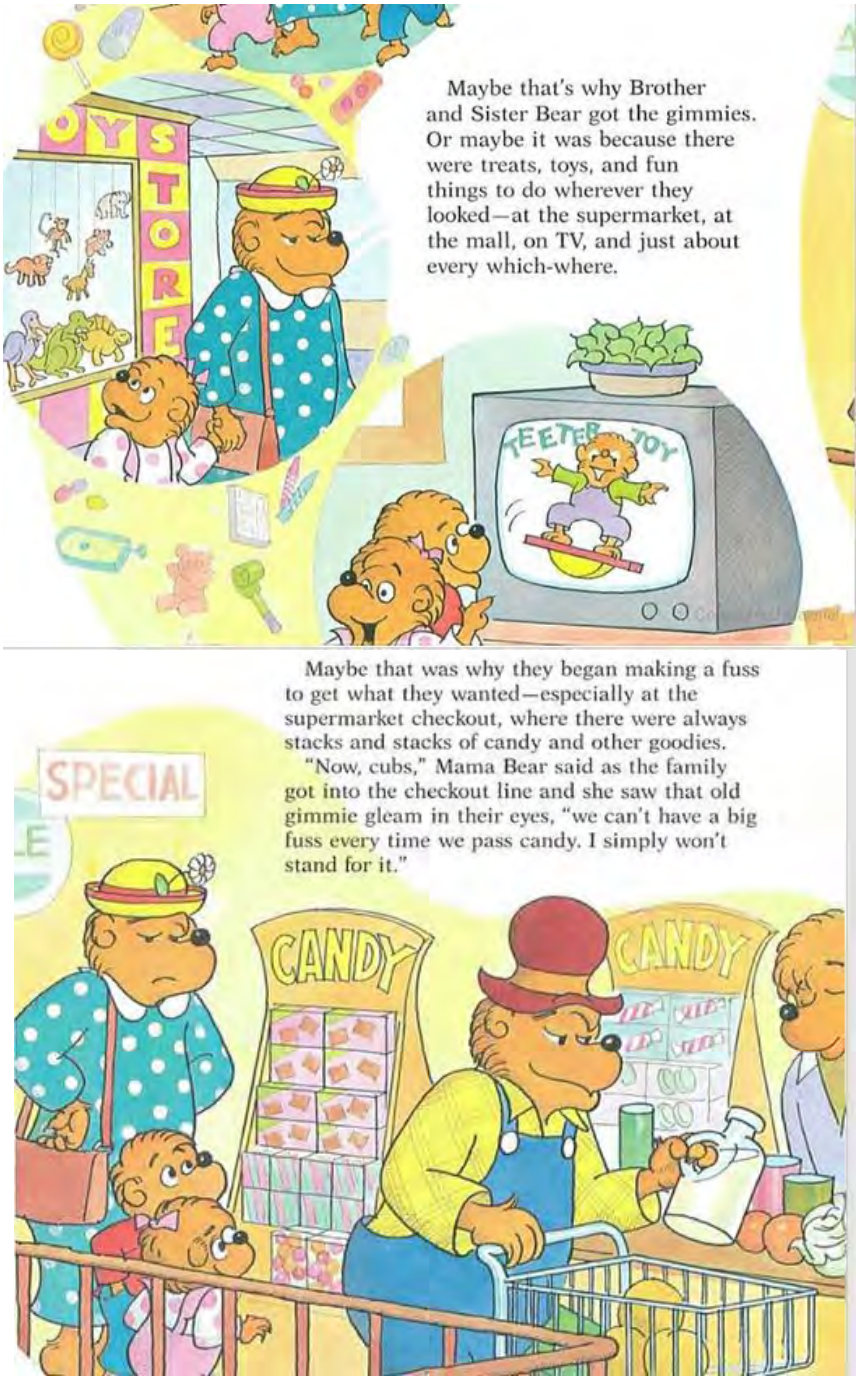
> **Habit is an evolutionary** adaptation that humans have brought from the savannah to the grocery store. "Most shoppers follow the same route through the store, as if guided by an invisible track running underneath the floor. This frees the mind to focus on shopping, decide what's for supper, or ponder the mysteries of the universe. This strategy of efficiency carries over to shopping in most product categories where brands serve as cues to automate a purchase decision" (Martin, 2008).

Habits are unconscious and automatic. According to social psychologist Wendy Wood, once a habit is formed, "various elements from the context can serve as a cue to activate the behavior, independent of intention and absent a particular goal. Very often, the conscious mind never gets engaged" (Martin, 2008).

Researchers at Iowa State found that people's intentions for themselves have no effect on strong habits, "such as when a customer has repeatedly purchased a product in the same context" (Martin, 2008). Plus, buying makes people happy in the short term because it triggers a burst of dopamine in the brain, which is associated with reward, pleasure, and

well-being (Lindstrom, 2008). People who want to eat well and lose weight often act against their own conscious self-interest when faced with food and beverages at checkout.

Research has found an association between the availability and composition of foods sold in stores and consumption patterns in a community (Ni Mhurchu, 2013). For example, in areas where stores devote more shelf space to junk food, people on average have a higher body mass index (BMI) (Rose, 2009). This relationship between the space allotted to marketing junk foods and BMI persists (albeit modestly) even after researchers control for sociodemographic variables, income, and car ownership (Rose, 2009).



(Images from *The Berenstain Bears Get the Gimmies* (2010))

The placement of candy at checkout has been described as a risk factor for obesity (Cohen, 2012b). One industry analysis examined purchases from checkout aisles and found that the average American woman could lose 4.1 pounds if she did not purchase junk food from checkout (Mahoney, 2007). The estimated effect for men under the age of 25 is stronger: their impulse buys at checkout account for enough calories each year to result in 8 pounds of weight gain. Although not every individual would experience the results estimated by this industry analysis—many factors affect an individual's weight loss—these numbers provide some perspective on the potential public health impact of checkout.

Turning Children against Parents

Adults are not the only shoppers at risk. Many marketing practitioners say that supermarkets are designed to get kids to pester their parents to buy certain products. The Federal Trade Commission reported that 75 percent

of purchasers surveyed said they bought a product for the first time because their children requested it (FTC, 2012).

As discussed above, most parents resist children's nagging most of the time. However, fights in the grocery store can be unpleasant, and they can take time away from accomplishing the shopping. In 2014, CSPI, with funding from the Robert Wood Johnson Foundation, conducted eight focus groups across the country with mothers, who reported that food marketing in the supermarket "hurts the relationship" with their kids because they are forced to argue with their children over food choices. One mother in San Francisco said, "It's frustrating that we have to fight." Another in Phoenix said, "Well, it makes me upset just because I want to make my kids happy. Me, personally, as a single mom working outside the home, [I have] only so many hours with my children and that's [unhealthy foods] what they want. You want to give it to them." Another mother in Atlanta acknowledged that while the ultimate decision is the parent's, all the small battles "can weigh you down" (KRC Research, 2014).

Rather than supporting parents' decisions about what their children should eat, checkout inevitably causes family strife. Most of the candy, chips, and soda in checkout aisles are placed at children's eye level and within reach, setting the stage for conflicts between parents and their children (Horsley, 2014). Companies often say that it is up to parents to decide what their children should eat. If so, then companies should not interfere with parental responsibility. Instead, they should stock candy in an aisle that parents can avoid if they choose to.

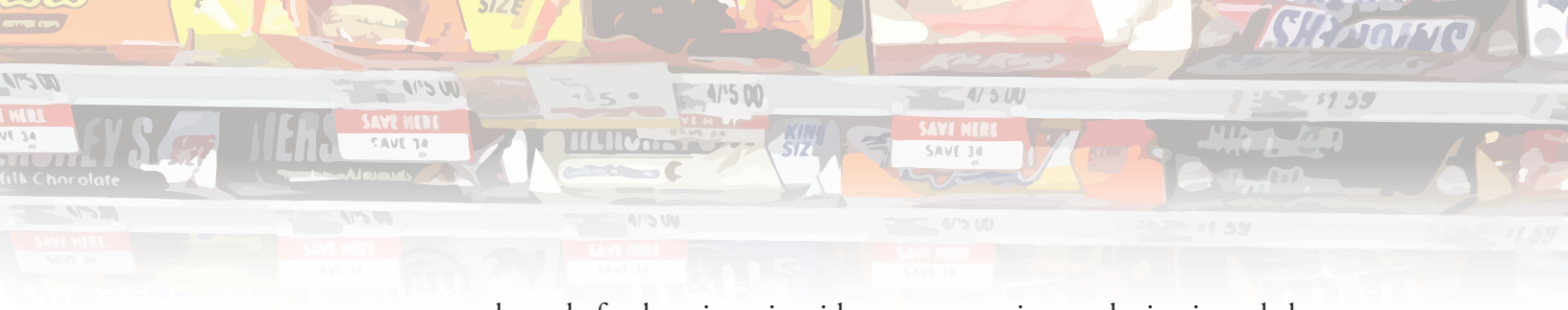
Research in the United Kingdom reveals that more than half of parents find it difficult to get their children to eat healthfully when candy and other snacks are pervasive—particularly in supermarket checkouts (Lidl, 2014). In fact, 68 percent of parents reported being pestered by their children for candy at the checkout, with 16 percent saying this occurs during every visit to the store. A second study found even higher numbers, with 83 percent of parents reporting that their children pester them for sweets at checkout and 75 percent admitting they have given in at least once (CFC, 2013).

English parents have responded positively to changes in the checkout aisle in supermarkets there. When the retailer Lidl tried offering healthy snacks in one checkout aisle in each of its U.K. stores, the junk-free checkouts received 20 percent higher footfall than the junk-laden aisles. Parents strongly supported the change, with one in four parents reporting that their children prefer healthier snacks when they are available at checkout (Lidl, 2014).

> **"The food industry** brings in serious muscle to bully us into eating too much of all the wrong things …. Any conversation about personal responsibility or public policy that fails to acknowledge this reality is either disingenuous, or uninformed. We have not a shred of evidence that the average, loving, busy parent of today is intrinsically less responsible than the average, loving, busy parent of yesterday. Yet that parent of today is far more likely to be obese and/or diabetic, and to have children who are obese and at risk for diabetes" (Katz, 2013).

Lesson from Self-Checkout: How the Industry Rectified a "Lost Opportunity" to Sell More

Although one might think that changes in technology will render checkout obsolete, recent developments with self-checkout demonstrate that food companies do not intend to let



customers pay at the end of a shopping trip without encountering marketing intended to spur impulse buys.

Self-checkout aisles were designed to cut labor costs and get customers out of the store faster than traditional aisles. The result was fewer junk food displays, with many checkouts free of merchandising altogether. This changed, however, as the industry found ways to sell salty, fatty, and sugary foods and beverages in self-checkout aisles.

"It does seem that our choices are constantly being manipulated by people who stand to benefit when we choose a particular product or service or person or ideology over another. Although we can usually give reasons for our choices, we're influenced by additional factors of which we remain unaware" (Iyengar, 2011).

One industry publication described the "lost opportunity" of self-checkout to sell more in these terms: "consumers tend not to shop the regular lanes for impulse items before conducting their transactions at the self-checkout. This has resulted in a significant blow to the impulse sales at checkout" (Jones, 2012). However, by 2012, only 20 percent of self-checkout aisles remained free of merchandizing, and the beverage, candy, and magazine companies were working together to find ways to foist impulse buys on shoppers working within the space and time constraints of self-checkout (Jones, 2012).

Further technological advances are unlikely to have significant public health benefits via eliminating impulse buys at the point of sale or pick up. Hershey, for example, has responded to the advent of curbside pickup—where customers do not go through checkout at all—by testing new kiosks, menu boards, and vending machines to encourage customers to buy candy bars on impulse when they come to pick up their groceries (Harwell, 2015).

The trend in retail is toward ensuring that no checkout aisle is free from impulse-buy displays. For example, the companies that make candy, gum, and magazines are urging drug stores to elicit impulse buys from customers who enter the store only to pick up prescription medications. This is a significant market, considering 47.5 percent of Americans have at least one prescription (Ghorayshi, 2014). The pharmacy counters that were once junk food-free are becoming littered with candy too (Masterfoods, 2010d).

People Are Vulnerable by the Time They Get to Checkout

Shoppers have good intentions. A 2010 report found that 66 percent of shoppers said they are looking for ways to improve their health through the choices they make while grocery shopping, and 74 percent of shoppers said their top health concern is "managing or losing weight" (FMI, 2010).

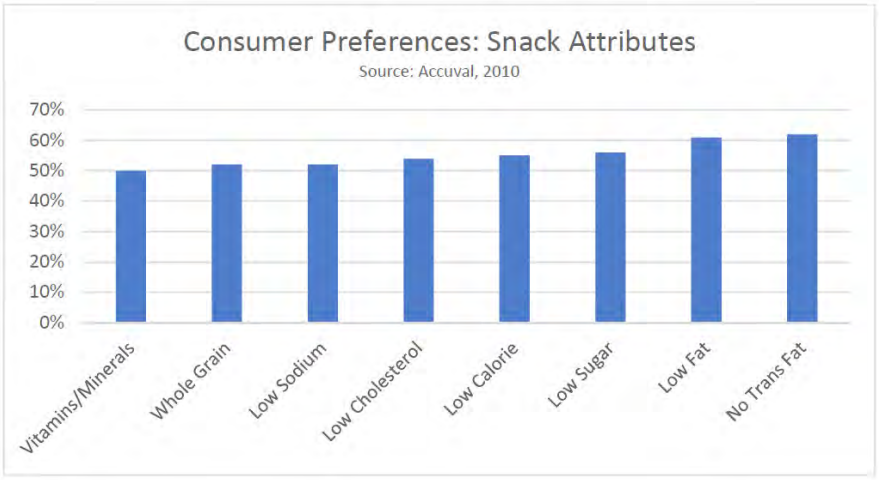
"Careful empirical research has identified a host of psychological and environmental manipulations that would be exceedingly difficult for consumers to detect or resist" (Smith, 2013).

Those are not just vague aspirations. More than half of Americans have thought a lot about the healthfulness of the foods and beverages they consume. Many people know that they should cut back on junk foods and eat more fruit and vegetables to improve their diets. And more than half are actively trying to lose weight (IFICF, 2015).

So why don't they?

One key reason is the food environment that people contend with on a daily basis, which influences food purchases and consumption, often in ways that are hidden or beyond conscious cognition.

Impulse Buying



Shoppers make more than half of all purchasing decisions—whether for groceries or other consumer goods—spontaneously in the store (Lindstrom, 2008). Some of those purchases are made without any conscious deliberation at all (Dholakia, 2000). Deborah Cohen, a scientist at the Rand Corporation, puts it this way: "Conscious awareness of our behavior appears to be activated after we begin an action in a secondary, indirect way, almost as an afterthought. Nevertheless, we usually have the feeling that our conscious intentions direct our actions" (Cohen, 2014). In other words, people reach for a candy bar without thinking and, if they justify our decision, the justification comes after the decision is already made. Because so many thoughts are subconscious and automatic, absent conscious intervention, "external forces can influence our choices with impunity" (Iyengar, 2011).

Retailers use marketing to create urges to buy and promote impulse purchases. They achieve this result by exposing customers to products through product displays and sales promotions (Dholakia, 2000). In fact, one industry publication advised retailers to respond to consumer prudence in times of economic downturn by increasing off-shelf displays (Neff, 2009). The idea is to induce customers to see and buy products on impulse that they otherwise would ignore.

Even more powerful than exposure to an image of an item is the physical and temporal proximity of a product. Simply being close to a product can activate an urge to consume it, and the fact that it is immediately available to be consumed can intensify this urge (Dholakia, 2000). In one experiment, for example, both popcorn and apples were placed in bowls in the same room as research participants, who were told they were welcome to eat. People ate more of the food that was near to them, regardless of which they preferred, leading the researchers to conclude that "proximity, not preferences, influenced food intake" (Privitera, 2014).

Impulse buying and consumption are motivated by urges that are sudden, often powerful, and persistent (Dholakia, 2000). Urges to eat are more frequent than urges to sleep, drink, and have sex combined (Hofmann, 2012). These urges are often unrelated to people's goals and are sometimes directly at odds with what they say they want (Dholakia, 2000). Impulse

buying, by definition, lacks any "thoughtful consideration of why and for what reason a person should have the product" (Vohs, 2007). And, even if "we know the 'right' answer [that] doesn't mean we can bring ourselves to choose it" (Iyengar, 2011).

(Neilsen, 2013)

Marketing expert Martin Lindstrom (2008) describes the shopping experience in this way: "When we make decisions about what to buy, our brain summons and scans incredible amounts of memories, facts, and emotions and squeezes them into a rapid response—a shortcut of sorts that allows you to travel from A to Z in a couple of seconds and that dictates what you put inside your shopping cart."

People make decisions quickly. In one study, researchers asked hungry people to indicate how much they liked various unhealthy foods. They then paired the foods—one preferred item versus one less-preferred item—and flashed them on a screen for 1/50 of a second and asked the participants to indicate with their eyes (looking to the left or right) which food they preferred. The participants were told they would get one of their selections at the end of the trial. The participants responded consistently with their preferences three-quarters of the time, and the average response was made in less than a half-second, indicating that they could make choices between unhealthy foods instantaneously (Milosavljevic, 2011).

Although few studies in academic journals focus specifically on impulse buying at checkout, ample evidence shows that external factors can influence consumption without conscious knowledge. In one study, researchers exposed people to an image of a happy, neutral, or angry face so briefly (less than 1/50 of a second) that they could not consciously detect it. The people then poured themselves a fruit-flavored sugar drink and consumed as much as they wanted. The people exposed to the happy face drank 50 percent more than those exposed to the neutral face—even though they did not consciously register seeing it—and the people exposed to the angry face drank the least (Berridge, 2003). In a second experiment, thirsty participants were willing to pay twice as much for a can of the sugar-sweetened drink after seeing flashes of happy faces than after seeing flashes of angry faces (Berridge, 2003). These studies suggest that decisions about food and beverage consumption and purchase can be

influenced by external factors that people do not even notice.

Thus, subtle, even subconscious, cues can sometimes trigger sensations that feel like the physiological need for food that people identify as hunger (Hill, 1984). When people see appetizing food, scientists have observed increased activity in parts of the brain. Most of the time, people cannot tell why exactly they want to eat; the sensation of wanting food is indistinguishable from true hunger (Cohen, 2012a). Simply put, "we may feel hungry even when our needs for fuel are well met" (Markus, 2005). For example, patients with amnesia, who lack memory of events just minutes prior, will eat full meals offered 10 to 30 minutes after they have finished a meal (Rozin, 1998).

Food cues trigger this desire to eat. "Here are a few of the things that can make you hungry: seeing, smelling, reading, or even thinking about food. Hearing music that reminds you of a good meal. Walking by a place where you once ate something good. Even after you've just had a hearty lunch, imagining something delicious can make you salivate. Being genuinely hungry, on the other hand—in the sense of physiologically needing food—matters little. It's enough to walk by a doughnut shop to start wanting a doughnut. … More often than not, we eat because we want to eat—not because we need to. Recent studies show that our physical level of hunger, in fact, does not correlate strongly with how much hunger we say that we feel or how much food we go on to consume" (Konnikova, 2014).

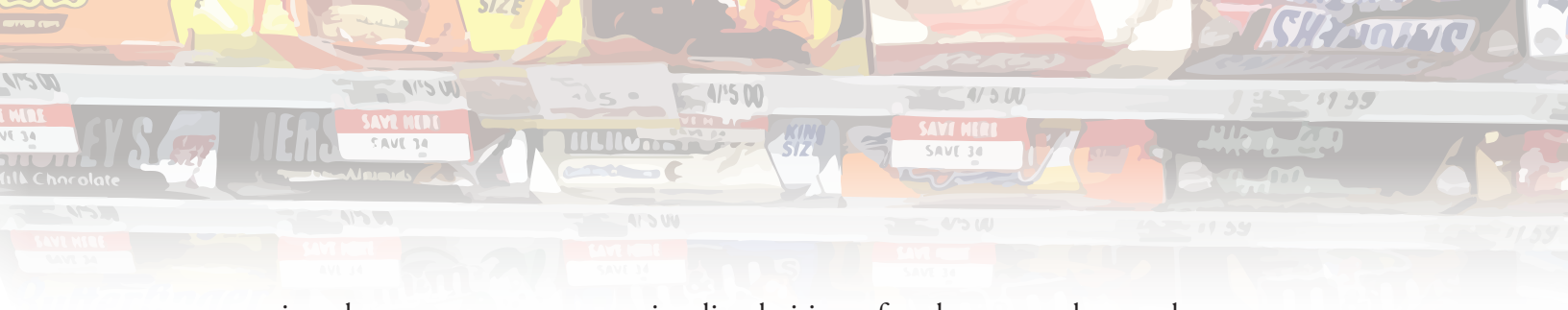
Cues in the environment can prime people to behave in certain ways. "The effectiveness of priming lies in its subtlety, not its strength, so it affects our choices on the margins rather than causing us to act against our strongly held values. A prime may influence whether you drink Coke or Pepsi, but priming alone will never lead you to sell all your belongings and spend the rest of your life in a monastery in the Himalayas. On the other hand, even though our core values and attitudes are relatively safe from subconscious influences, the same can't always be said for the way we act out of that core ... meaning that even the most important choices in our lives can be influenced in ways that run counter to our expressed preferences" (Iyengar, 2011).

Researchers in the lab can even manipulate people's desire to eat and how much they consume. In one study, researchers found that feeding women their favorite foods resulted in greater levels of hunger two hours later (Hill, 1984). In another, they exposed women to the smell of baking pizza, asked them to write about pizza, or both—and found that they subsequently ate more pizza than a control group (Fedoroff, 1997). In a third, researchers found that women who were exposed to food cues for pizza and cookies reported significantly higher levels of hunger than women who were not (Fedoroff, 2003).

Researchers can also manipulate which foods people want to eat. One study, for example, influenced which dessert people selected, getting people to choose a fruity dessert over a chocolaty dessert by exposing them to a pear scent that was so subtle that none of the participants reported noticing it (Gaillet-Torrent, 2014).

Realizing that interviews and focus groups only provide a partial picture of consumer behav

Package size, plate shape, lighting, the presence of other people, distractions such as television or reading, and the variety of food are just some of the factors that influence the quantity of food people consume (Wansink, 2004).



ior—because customers can rationalize decisions after they are made—marketers now engage in research using magnetic imaging to see how the brain responds to promotions and product packaging (Lindstrom, 2008). This new field of neuromarketing focuses on how to appeal to customers' unconscious minds, specifically to bypass the cognitive defenses that are triggered when people consciously evaluate their decisions (Lindstrom, 2008; Van Praet, 2012). This information is especially relevant at checkout, the quintessential place where people give in and make impulse buys.

"Each time we give in, we increase the amount of self-control we need not to eat the next time. In an environment in which food is a perpetually available temptation, the costs of constantly resisting are high. There are only so many times that you can let a platter of pigs in blankets pass by before you take one" (Konnikova, 2014).

"The often-used phrase 'pay attention' is apt: you dispose of a limited budget of attention that you can allocate to activities, and if you try to go beyond your budget, you will fail" (Kahneman, 2011).

People make countless decisions every day—ranging from the mundane (choosing what to wear) to the profound (deciding where an ailing parent should live). Taken by themselves, the majority of daily decisions do not require much effort. However, decisions add up, collectively weakening people's ability to continue making good choices. That is why the same person who can pass up pastries in a bakery window on the way to work might give in on the way home.

Decision Fatigue

Although some people can stop to evaluate whether making a purchase is harmonious with their long-term goals, such as losing weight or eating more vegetables, others have a strong tendency toward impulsivity, which makes it difficult to resist urges (Dholakia, 2000). People who are dieting have stronger physiological responses to the sight and smell of food, and they are more likely to overeat in response to food cues than people who are not dieting (Fedoroff, 1997). People living in poverty have a harder time resisting temptation after they have made economic decisions than more affluent people (Spears, 2011). Adolescents are more susceptible to impulse and more motivated by immediate rewards than adults (Casey, 2008). Additionally, perfectionists and people under the influence of alcohol both appear to have stronger-than-average urges, and people suffering sleep deprivation are also vulnerable to impulse buys (Hofmann, 2012; Baumeister, 2002).

When people are happy, well rested, and in a good mood, they find it easier to make good choices about which foods to buy (at checkout and elsewhere) and eat. However, when they are tired or stressed, it is harder to make good decisions.

No one is immune from impulse buys altogether, though. Self-control is like a muscle that fatigues with use (Baumeister, 2002). People who are told to suppress an emotional response to a movie have more difficulty solving anagrams after (Bargh, 1999). And, sitting near a bowl of candies while dieting diminishes one's ability to complete a difficult task later (Vohs, 2007). However, people are not usually conscious of these effects (Bargh, 1999).

Changes in people's ability to make rational choices are observed not only after people resist temptation, but also after they have made a series of decisions. As one researcher put it, "making choices and decisions appears to reduce the same resource as is used for self-control" (Baumeister, 2002).

Researchers believe that rational thought requires considerable effort and is slow, whereas unconscious and automatic thoughts are

"unintended, effortless, very fast, and many of them operate at any given time" (Bargh, 1999). When people are exhausted from conscious thought, they switch over to automatic and unconscious decision-making (Bargh, 1999). In practical terms, this means they are more likely to make unplanned purchases when they are feeling depleted (Vohs, 2007).

After making a series of decisions, people ranging from judges to retail shoppers are more likely to make choices against their best interests or opt for irrational options. A 2011 study examined 1,100 judicial decisions on whether to grant parole to prisoners and found that judges started the day by granting parole in about 65 percent of cases. As lunchtime approached, the rate fell to nearly zero. After the lunch break, the judges again granted parole at a rate of 65 percent. The time passed since the judges took a break exerted a statistically significant influence on their rulings, whereas factors such as the severity of the crime the prisoner had committed and the prison time already served did not (Danziger, 2011).

Researchers have concluded: "Marketers with a goal of inducing consumers to indulge themselves are better off reaching customers at the end of a series of choices involving trade-offs, such as near the conclusion of a mall or grocery shopping trip" (Wang, 2010).

"Even when people are trying to make healthful choices, their ability to resist palatable foods in convenient locations wanes when they are distracted, are under stress, are tired, or have just made other decisions that deplete their cognitive capacity" (Cohen, 2009).

There are 30,000 to 50,000 products in the average supermarket (Sorensen, 2009). The act of shopping involves a series of decisions, which deplete people's ability to make rational decisions (Baumeister, 2002; Bruyneel, 2006). A list can diminish the number of decisions that customers make in the store, but many people shop without a list (Sorensen, 2009).

Even armed with a shopping list, however, customers must decide among an array of brands and varieties of a single product. In addition to price, size, taste, and packaging, more than half of all shoppers consider calories, whole grain content, sodium, fiber, sugars, protein, fats and oils generally, trans fat, saturated fat, the presence of high-fructose corn syrup, cholesterol, caffeine, and low-calorie sweeteners in their food buying decisions (IFICF, 2015).

Moreover, many people shop after work, when they have already made a full day's worth of decisions and are hungry. When they get to checkout, they may grab a bottle of soda without fully considering its health effects, or they may be vulnerable to their children's insistence that they buy candy. As a result, people may buy more junk foods after making a series of decisions than they otherwise would (Bruyneel, 2006).

In addition to all the decisions shoppers make in the store, the store environment itself can tax their resources, making it more likely people will opt for junk food over healthy choices. Researchers use the term "environmental load" to describe the music, smells, colors, and lighting that stores use to influence how much people spend, how many items they buy, how long they spend in the store, and the likelihood they will make unplanned purchases (Bruyneel, 2006). Researcher L.W. Turley (2000) has catalogued 57 different environmental factors, ranging from exterior display windows to employee uniforms, that affect the customer experience. Those factors can be manipulated to exhaust or deplete customers, diminishing their ability to make good choices by the time they get to checkout.

Changing How Choices Are Presented Can Encourage Positive Outcomes

Retail environments can support good health or undermine it. Not only do stores determine the range of choices their customers have to consider, but they affect people's decisions based on how they present those choices.

Stocking and promoting healthy foods can improve children's diets. Working with grocery stores to stock and promote more nutritious foods, researchers in Hawaii improved the nutrition of the local children, as measured by the Healthy Eating Index (Gittelsohn, 2012).

There is no unbiased way to present a choice to people. As Barry Schwartz (2014), the author of *The Paradox of Choice*, writes, "there is simply no neutral. We may take the familiar format of options as neutral, but that's only because it's familiar. So given that there is no neutral, does one violate neutrality randomly, based on accidents of history? Does one allow marketers to violate neutrality to serve their (and not consumers') interests? Or does one violate neutrality to enable citizens to live better lives?" Schwartz and other prominent thinkers have advocated the latter approach: that choices should be presented in a way that supports people's ability to live better. In an ideal world, the individual chooses, but the "choice architecture" provides a nudge that makes the healthy or wise choice the easier choice.

Defaults

A default is the option that people receive if they do not explicitly choose something else (Smith, 2013). People are affected by the selection of products offered—and promoted—where they shop. For people at the end of a shopping trip who are hungry or want a quick pick-me-up, the default snack is what is available at checkout. While they could leave the line to go to the produce aisle and get a banana, the candy bar is right there as the default.

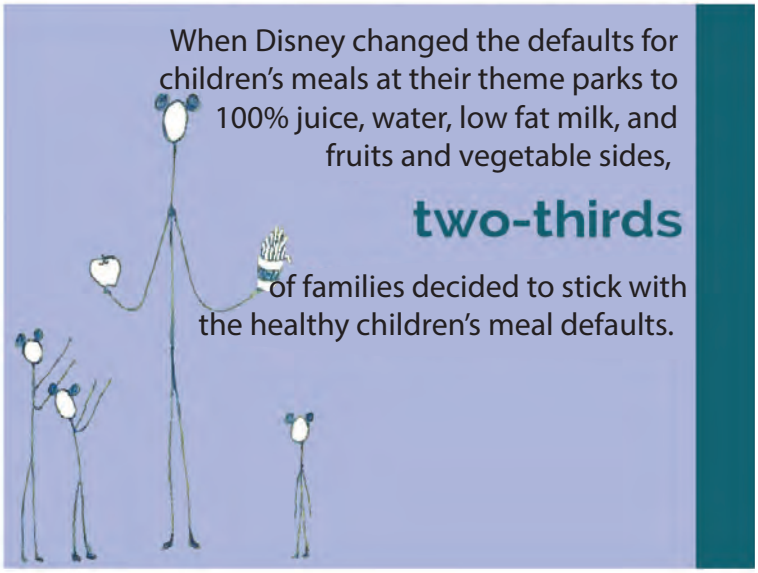
The formulations of food products sold in the store become the default versions of those foods. "Food manufacturers create products high in fat, sugar, and salt, which humans have evolved to crave, thus encouraging food choices that contribute to chronic conditions. With these ubiquitous and inexpensive products, producers construct an environment where unhealthy food choices are the default" (Freudenberg, 2012).

Because a default is what you get when you do not actively choose, it holds a "privileged status among all possible choices" (Halpern, 2007). Defaults are widely accepted as affecting human behavior. Studies have looked at the role that defaults play in decision-making across an array of subjects, including selecting an investment vehicle (Agnew, 2005), choosing generic drugs (Abadie, 2006), opting for organ donation (King, 2002), and ordering from a menu (Wisdom, 2005). The results show that

people are more likely to opt for the particular option when it is set as the default than they would otherwise.

For example, in Disney theme parks, the Disney Corporation has changed the defaults for beverages to healthy choices, such as 100% juice, water, and low fat milk, and offers fruits and vegetables as the default side dishes with children's meals. These changes have been well-received; two-thirds of families stick with the healthier children's meal defaults (Disney, 2008).

Researchers theorize that defaults may work because they carry the implied endorsement of an authority, such as a government, brand, or other institution (Smith, 2013). Importantly, it takes more effort to opt out of a default than to go along with it. For example, a mother at the end of a grocery shopping trip, who realizes her child is hungry, could leave her place in line to get a snack from the produce section, but it is easier simply to select among the choices displayed at checkout.



Children are especially vulnerable to defaults, because they tend to be more passive than adults in choosing and often have little control over their environment (Radnitz, 2013).

A 2007 controversy over Facebook highlights one of the ethical dimensions of defaults. That year, the public found out that the social media site was announcing users' purchases to their friends unless they opted out. As a result, tens of thousands of people signed an online petition that asserted that the policy was a violation of privacy and urged the site to change its practice (Smith, 2013). Although each individual could opt out of the setting, people recognized that many would not and that the default would shape the online environment.

Defaults can create habits. A past decision to make a particular choice may predispose people to act consistent with that choice again and again (Bargh, 1999).

"Purposefully setting default options is no more paternalistic than taking a laissez-faire approach… setting default options explicitly aims to maximize welfare, ignoring default options leaves welfare to chance" (Halpern, 2007).

The ethical implications of defaults are also of concern when people are not aware that their choice is being manipulated (Smith, 2013). When CSPI posted photos of checkout aisles on social media, encouraging retailers to put the candy back in the center of the store, some people commented that CSPI should not meddle with what is sold at checkout. That perspective misses a fundamental point: food manufacturers and retailers are already meddling with people's choices, setting the default options to be the high-sugar, high-salt, and high-fat foods and beverages that derail healthy diets. Should defaults be set by food and beverage manufacturers and retailers

without input from their customers? Defaults already exist. Unfortunately, they have been put in place by companies eager to sell more, unhealthy food. Thoughtful defaults could instead be used as nudges to support healthy choices rather than unhealthy choices (Radnitz, 2013).

Nudges

By placing certain foods in more prominent places, thereby increasing visibility, availability, and accessibility, retailers nudge their customers to select some foods over others. Nudges can support positive or negative health outcomes. Right now, retailers often nudge their customers to buy unhealthful foods and drinks by placing them at checkout and on end caps and using other techniques such as sales and coupons, paid for by manufacturers.

The motivation behind nudging is that people sometimes make decisions that are neither in their best interest nor reflective of their true preferences. Poor decisions made today are ones that may harm a person down the road. This future harm is known as an "internality." By changing the way people are presented with choices, nudges help people make better decisions today, more in line with their long-term goals and desires, which minimize harm to themselves tomorrow.

Nudges can and should be used for good. Nudges that effectively improve public health include changing the layout of cafeteria food, placing healthier items in prominent positions on a menu, and designing buildings so that the stairs are reached before the elevators (Kremers, 2012). Similarly, displaying photos of salads in a cafeteria can reduce the consumption of desserts, and serving adults several small portions of broccoli, carrots, and peas rather than a larger portion of a single vegetable increases vegetable consumption by a half serving (de Wijk, 2013; Meengs, 2012). When just one vegetable is served, increasing the portion size can boost consumption (Rolls, 2010). Nudges can have sustained and long-term effects (Thorndike, 2014).

"Unless there is an obvious reason to do otherwise, most of us passively accept decision problems as they are framed and therefore rarely have an opportunity to discover the extent to which our preferences are *frame-bound* rather than *reality-bound*" (Kahneman, 2011).

Google recently used a nudge to get its employees to eat fruits and nuts rather than candy. The Internet giant was concerned that workers were gorging on free M&Ms instead of the healthier options it offered (Kang, 2013). Simply by putting the chocolate candies in opaque containers and prominently displaying dried figs, pistachios, and other nutritious snacks, Google reduced consumption in its New York office by 3.1 million calories over 7 weeks—the equivalent of nine packages of M&Ms per employee (Kang, 2013).

In one study, researchers provided 191 college students with 3 types of payment options in the cafeteria: cash only, cash plus an unrestricted debit card (students could purchase any item with the card), and cash plus a restricted debit card (Just, 2008). The restricted debit card could only be used to purchase healthy menu choices designated by a green dot. Study participants with healthy debit cards consumed fewer calories and purchased twice as many healthy items and fewer unhealthy items as the unrestricted card group, in spite of also being given cash to purchase unhealthy items if they wished. They also consumed significantly less added sugars, total fat, and saturated fat than those with the unrestricted cards.

In the supermarket, researchers improved produce sales by a combination of floor arrows pointing to the produce section and shopping carts with placards stating that the average customer bought five fruits and vegetables and listing the most popular produce items. The change was most pronounced among participants in the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) (Moss, 2013b).

Preferential pricing also can provide an effective nudge. A systematic review of the literature on this topic concluded that pricing incentives, through discounts, coupons, vouchers, and loans, have been effective in increasing purchases of healthier food options (Liberato, 2014). In one of the studies considered in the review, low-income families who received a rebate of 50 cents on every dollar spent on fresh or frozen fruit and vegetables purchased an average of eight more servings of vegetables and two-and-a-half more servings of fruit per week than families who did not (Phipps, 2014). Other studies have reported more modest improvements (Liberato, 2014).

M&Ms cost $0.75 per serving. Grapes cost $0.46 per serving.

Researchers in the Netherlands studied the effect of nudging at a checkout counter in a hospital cafeteria, adjusting the proportion of healthy snacks to junk food (Van Kleef, 2012). They found that when the shelves were stocked with 75 percent healthy choices, as opposed to 25 percent, sales of healthy foods were boosted. Moreover, the employees who used the cafeteria reported no effect on their perceived freedom to choose products they enjoyed.

Impulse buying, decision fatigue, and defaults influence people's choices in subtle and sometimes unconscious ways at checkout. Rather than pushing candy and sugar-sweetened drinks in retail checkout aisles, retailers would better serve people's interests by defaults and nudges to support healthier choices instead.

Small Changes Can Add up and Improve Health

Small, long-term changes in a person's calorie consumption can affect whether that person gains weight or becomes overweight or obese (Flatt, 2011). Although the causes of obesity are complex, the American obesity epidemic is estimated to be due to an excess of about 100 calories per day for adults and 64 calories for children (Hill, 2009; Wang, 2013). This means that small decreases in daily calories could reverse the epidemic. The 2010 Dietary Guidelines for Americans points to strong evidence demonstrating that children and teens who consume large amounts of sugary drinks weigh more than those who drink less (USDA, 2010). Drinking water instead

of soda and other sugary drinks could help to close the calorie gap and improve health.

Fortunately, the shift toward healthier choices has already begun. There are signs that the food environment is beginning to improve: school lunches are getting healthier, and the food industry has adopted voluntary limits on food marketing to children and made an effort to reduce calories. A 2013 study found that lower calorie snacks drove 82 percent of overall sales growth among food companies (Cardello, 2013). Manufacturers' use of trans fats has also declined in response to labeling requirements and encouragements to reformulate products (Rahkovsky, 2012).

Sugary drink consumption has begun to go down in recent years, particularly among children and adolescents (Han, 2013). Between meals, nearly half of all beverages consumed are tap, filtered, or bottled water. Between 2001 and 2011, bottled water sales rose from 18.2 gallons to 29.2 gallons (equivalent to 222 half-liter bottles) per person per year (Fishman, 2012). Retail sales are projected to increase from $13.1 billion in 2013 to $17 billion in 2018 (Hennessey, 2014). Plus, after decades of increases in kids' intake of calories from snacks, the percentage of calories kids consumed from snacks in 2012 had returned to 1994 levels (NHANES, 2014; Piernas, 2010b).

Healthy snacks can boost nutrition. Snacking helps some older children and teens reach the federal dietary recommendations for fruit consumption. The kids who eat the most snacks eat twice as much fruit as kids who do not snack at all (Sebastian, 2008).

Many people will go out of their way for healthier food. Researchers in Philadelphia found that most people travel beyond their closest food store to other stores that have more variety and more healthy foods. Nearly 90 percent of the people they surveyed lived closest to a corner store or convenience store, but less than 1 percent elected to do their primary food shopping there. Instead, they drove, took public transit, biked, or walked to supermarkets with more healthy options (Cannuscio, 2013).

"But relying on lifestyle change as the primary strategy to reduce the incidence of chronic diseases and injuries has three flaws: it doesn't work very well, it blames the victims rather than the perpetrators of unhealthy lifestyles, and it is profoundly inefficient" (Freudenberg, 2014). If we want to reverse the suffering and mortality associated with the diseases caused by poor diets, significant systemic changes are necessary. Obesity remains widespread, adults and children continue to consume too many calories from junk food, and very few Americans get the recommended amounts of fruits, vegetables, and whole grains (Wang, 2014; Piernes, 2010a; USDA, 2010; Krebs-Smith, 2010). Rather than letting big food companies continue to make

Efforts to reduce trans fat provide an example of how nutrition policy can have a meaningful impact on Americans' diets and health. As a result of a national policy to require trans fat labeling (which went into effect in 2006), state and local policies to reduce trans fat in restaurant foods, litigation, and public pressure, food companies and restaurants have reformulated most of their products to eliminate artificial trans fat. From the late 1990s to 2012, consumption of artificial trans fat decreased from 4.6 grams on average per person per day to 1.0 gram, with corresponding decreases in blood trans fat and total cholesterol levels (HHS, 2013). According to the Centers for Disease Control and Prevention, eliminating partially hydrogenated oil from the food supply, as the FDA has proposed, could prevent 3,000 to 7,000 deaths from coronary heart disease each year and 10,000 to 20,000 heart attacks and strokes annually (HHS, 2013).

decisions that put profit before public health, we need to change the food environment, especially at retail stores, to make healthy choices available, easy, and appealing.

Changing the options at checkout is one way to change the norms around snacking. Most food and beverage companies already sell healthier beverages such as bottled water, or have reformulated food products to meet school nutrition standards that could be sold at checkout.

Bananas and Brownies at the Register at 7-Eleven, Washington, DC (2014)

The power of checkout already boosts sales of healthy foods and beverages where they are offered. Water, for example, is typically stocked in half of supermarket checkout aisles and takes up less than 2 percent of the space across all checkout aisles (Masterfoods, 2010b). However, 40 percent of shoppers reported that they had purchased bottled water from checkout in the past six months. Similarly, although supermarkets stock nuts or seeds in only 6 percent of checkout aisles, 18 percent of shoppers had purchased those foods from checkout in the past six months (Masterfoods, 2010b).

Among the people who buy water from checkout, 91 percent said they do so at least once a month (Masterfoods, 2010a). People who buy bottled water from checkout are more likely to do so monthly than people who buy sugar-sweetened drinks, candy, or any other product sold at the front of the store (Masterfoods, 2010a).

The convenience chain 7-Eleven sells seven times more bananas each year than Snickers, its top-selling candy bar (Horovitz, 2014).

Additionally, exposure to particular foods in checkout may increase affection for them. This is due to the "mere exposure effect," by which an increase in the familiarity of a neutral or positive object or idea results in people liking it more. "The mere exposure effect explains many facets of our life, such as why it's so hard to find someone who can prepare our childhood favorites like Mom did, and it also holds when we see the latest fashion trends prominently featured in stores, catalogs, and finally on people we know" (Iyengar, 2011).

Fruit is an appealing choice for checkout. When fruit is placed only in the produce aisle, retailers are not maximizing their profits from the category, and customers on quick grab-and-go grocery trips are missing out on an opportunity to pick up a healthy snack.

In addition to whole and sliced fruits and vegetables, retailers who want to provide shoppers with healthier options can offer popular new products such as freeze dried fruits and specialty nut blends. Hummus is also available in single-serve, ready-to-eat portions (Zimnoch, 2013).

Non-Food Items at Checkout Can Be Good for Business

Even where junk food dominates checkout aisles, non-food items are commonly found too. A recent study by CSPI revealed that retailers in the District of Columbia and Maryland are

selling lip balm, over-the-counter cold medicine, hand sanitizer, eye drops, USB cables, gift cards, toys, magazines, and reusable shopping bags at checkout (Fielding-Singh, 2014).

Magazine sales account for about one-third of total checkout profits (MPA, 2009). According to industry research, 60 percent of customers buy magazines at checkout at least once a month. Plus, 39 percent buy batteries or flashlights at least monthly (FMI, 2012).

Cues that trigger candy sales can also be directed to non-food impulse buys, particularly for small indulgences like lotion and bubble bath, or gifts such as toys and flowers. Markup on some of those items is high. For example, the wholesale cost of lip balm can be as low as 30 cents per tube, but some retailers sell it for $2 (Bulk Apothecary, 2014).

Gadgets and Other Non-Food Items at Ace Hardware Checkout, Washington, DC (2014)

Gift Bags and Umbrellas at Barnes & Noble Checkout, Washington, DC (2014)

Baseball Cards at Modell's Checkout, Washington, DC (2014)

Several non-food items top the list of items people buy on impulse at checkout. Four of the top ten impulse buys are: children's toys, games, and books; books (for adults); magazines; and maps, horoscopes, and puzzles (Masterfoods, 2010b). Plus, hand sanitizer is big business. In 2012, sales were $173 million—a figure that goes up when there is a flu outbreak. In 2009, for example, an outbreak of swine flu propelled sales to $301 million (Fottrell, 2013).

Healthy Checkout Can Support Health—Case Studies

In the United States, no retailer has yet adopted nutrition standards for checkout. Still, several pilot projects around the country provide a glimpse of what healthy checkout could look like. Across the ocean, several retailers in the United Kingdom recently adopted comprehensive checkout policies that apply to all checkout aisles in every store.

Middle School Students Convince Local Walmart to Try Healthy Checkout

"Do you care about the kids in your community?" That was one of the tough questions that middle school students in Shasta County, California, posed to the manager of a local Walmart in an effort to improve the health of their community. The Walmart is the biggest retailer in town and serves as the primary food store for many residents, and the kids knew that the placement of candy and soda in the checkout aisles prompts impulse buys. They asked the manager to offer healthier options, such as apples, carrot sticks, peanuts, and dried fruits instead (Haggard, 2014).

At the request of the kids and their allies at the Shasta County Public Health, Health and Human Services Agency, the Walmart store manager agreed to try a healthy checkout aisle. In the first month, sales of the items in the healthy checkout aisle as much as quadrupled. Not only did that Walmart expand the healthy checkout concept to a second aisle, but two other Walmarts in the area created healthy checkout aisles themselves, and the county health agency has received inquiries from around the country about replicating their success (Haggard, 2014)

West Virginia Makes Healthy Checkout a Priority

In 2010, the West Virginia Office of Community Health Systems and Health Promotion launched its Change the Future WV campaign to help curb obesity and charged regional managers and coordinators to work with store managers to replace the candy and sugary drinks at checkout with fresh fruits and vegetables, dried fruits, and other healthier foods and drinks (Wines, 2014).

Healthy Checkout Options:

- Whole fresh fruit: apples, bananas, clementines.
- Cut fresh fruit and vegetables: melons, berries, celery, carrots.
- Dehydrated and freeze-dried fruits: apricots, figs, strawberries.
- Unsweetned apple sauce and fruit leathers (100% fruit only).
- Nuts and seeds: almonds, peanuts, sunflower seeds, pumpkin seeds.
- Hummus and peanut butter.
- Healthy meal starters: whole wheat pasta and pasta sauce, for example.
- Water and seltzer (plain or flavored).
- Non-food items.

Many advocates recommend adopting nutrition standards for foods sold at checkout and assisting the store manager by compiling a list of products offered elsewhere in the store that meet the standards. Advocates in Shasta County, California, for example, followed state school snack standards for the dry goods in their healthy checkout aisles (Haggard, 2014). In West Virginia, healthy checkout aisles follow the state Office of Child Nutrition's guidelines for salt, fat, and sugar (Brainard, 2014). Model nutrition standards are included as an Appendix to this report.

The program has successfully implemented healthy checkout aisles in more than 50 stores across the state. Change the Future WV provides managers with fixtures to revamp or remodel checkout aisles, a sign that reads "Healthy Checkout Aisle," and recognition via press release and display ads in local newspapers.

Fruit at Walmart Checkout, South Parkersburg, WV – photo credit: Change the Future WV

Robert Wines, director of the Office of Community Health Systems and Health Promotion, reports that the smallest stores have been the most enthusiastic, often because they do not have marketing agreements for all of their checkout aisles. Although the stores closely guard their financial information, he has heard from store managers that the healthy checkout aisles are just as healthy financially as any of the other aisles, and there is such strong support in the community that some people will wait longer to use the healthy checkout aisle in their local store, or will ask the manager to open it if it is closed (Wines, 2014).

Carrie Brainard is the health official in charge of implementing the program in her region. She says that in the beginning, stores anticipated challenges that did not end up being obstacles. For example, when Change the Future WV proposed placing baskets of fresh fruit in the checkout aisle, store managers feared they could not lawfully do so. Getting the sign-off of the local health department—which occasionally requires modifications such as tongs to pick up fruit—has been key to the program's feasibility and success.

Brainard says that the first day a healthy checkout aisle went into one store, she was happy to hear two little kids behind her in line ask their dad for bananas. She also reports that the manager of the store got a call from a mother who said she had just been through the healthy checkout aisle and loved it (Brainard, 2014).

A Store Dietitian Brings Healthy Checkout to Utah

A corporate-led effort brought healthy checkout to shoppers in Utah. The program began shortly after Harmons, a privately owned grocery chain, hired Jessica LaRoche as its first dietitian. In her first few weeks in the job, LaRoche attended a conference where supermarket dietitians were given sticky pads and asked to write down their dreams for the stores where they worked. Looking at all of her colleagues' ideas, she found herself drawn to one in particular: healthy checkout. Harmons was opening a new store two months later, and LaRoche got busy making sure it would have a healthy checkout aisle. Using nutrition standards for school vending machines, she identified products throughout the store, such as cups of unsweetened applesauce, appropriate for the healthy checkout aisle (LaRoche, 2014).

When the store opened, the feedback from the community was overwhelming: the healthy checkout aisle was a hit, particularly among families. The new store featured many new programs, but the one that made the news and caught the attention of new customers was the healthy checkout aisle.

Now, all Harmons stores feature a healthy checkout aisle, which includes foods handpicked by LaRoche and her colleagues using Harmons' own Dietitians' Choice criteria, as well as a variety of non-food items. Periodically, she designs schematics for all parts of the checkout

aisle, which specify where particular items should be stocked. Many of the products are designed to appeal to families. A recent schematic featured flash cards, crayons, water bottles, travel mugs, tissues, hand sanitizer, and lip balm, as well as fresh and dried fruit and nuts.

Fruit, Water Bottles, Art Supplies, and Other Items at Harmons' Checkout – photo credit: Harmons

All the positive customer feedback has prompted LaRoche to try to figure out how much secondary placement at checkout boosts sales of healthy foods and non-food items. Hard data are difficult to gather, because the products have the same bar codes and stock keeping units (SKUs) regardless of whether customers pick them up in the center of the store or at checkout. However, LaRoche does notice that the items in healthy checkout aisles need to be refilled frequently. In fact, some products that are not selling well in other parts of the store are sometimes successful in checkout. For example, Harmons had removed a brand of hand sanitizer from the center of the store because it was not selling well, but people buy it at checkout, so now it is regularly stocked there (LaRoche, 2014).

Healthy Checkout Springs Up throughout the Country

Many other healthy checkout projects are popping up across the United States. For example, ***Hy-Vee*** offers one or two "Healthy Bites" aisles in each of its stores in Iowa, Illinois, Kansas, Minnesota, Missouri, Nebraska, South Dakota, and Wisconsin. The aisles feature "better-for-you" products, such as bottled water, snack bars, 100-calorie packs, and zero-calorie beverages, plus foods chosen by store dietitians, such as fresh fruit. Hy-Vee's headquarters sends a planogram with the suggested placement of items to each store, but the store dietitians are encouraged to be creative about what they include (Eddy, 2014).

In ***California***, the Public Health Institute's Champions for Change program is improving health through improvements to grocery stores, including implementing healthy checkout aisles (DeLisio, 2014).

In ***Indiana***, the Welborn Baptist Foundation worked with a local grocery chain to introduce healthy checkout as part of its "Upgrade" program, which encourages people to make small changes to boost their health, such as drinking water and taking the stairs. Aware of the role of food companies in deciding what is stocked at checkout, the foundation staff met with the regional Frito-Lay representative, and the store owner met with Pepsi, to determine which products would be appropriate for the two Upgrade checkout aisles. Frito-Lay agreed to place its healthier products—peanuts, baked chips, and pretzels—at eye level on all the aisles, and Pepsi decided to put water, teas, and no-calorie sports drinks in the coolers in the Upgrade aisles. The aisles also feature jump ropes, bouncy balls, and applesauce. Jill Tuley, Food System Specialist for the foundation, reports that they have been popular among customers (Tuley, 2014).

Fruit and 100-Calorie Snack Packs at Hy-Vee Checkout – photo credit: Hy-Vee

In ***Maryland***, researchers from Johns Hopkins are testing several approaches to marketing healthy foods in one grocery store, while leaving another similar store unchanged for comparison purposes. One approach was the creation of a healthy checkout aisle. The researchers are also testing changes to the foods displayed at an end cap, reducing the prices for healthy foods, providing taste tests to customers, and training the staff in nutrition and food safety. Initial indications were said to be positive, but the results of the study have not yet been published (Palmer, 2014).

Fruit and Meal Starters at an Indiana Checkout Aisle – photo credit: Welborn Baptist Foundation

In ***Nebraska***, dietitians at the Douglas County Health Department worked with residents of a lower-income neighborhood to identify a food store that could be part of the Department's Healthy Neighborhood Store initiative. They chose Phil's Foodway, a mid-size store with strong ties to the community. After evaluating the nutritional quality of the foods placed at checkout and identifying healthy foods sold elsewhere in the store, they designed a "Healthy Checkout" aisle with signs and floor graphics that featured an arrow that points shoppers to that aisle. They also worked with the store manager to promote healthy foods in the aisle to WIC participants by, for example, offering apples for 49 cents each or a 5-pound bag for $5. Together with other changes in the store, the healthy checkout aisle boosted sales of healthy foods, including fruits and vegetables (Schram, 2014).

In ***New York City***, the Bed-Stuy Restoration Corporation, a

community development organization, requires its tenant, Super Foodtown, to offer at least some healthy choices in all checkout aisles. Although sugary drinks are still placed at checkout, the aisles offer fresh fruit, nuts, kale chips, dried fruit and vegetables, and water, and the Corporation is working to make the mix even healthier (Henry-Jones, 2014). In a separate program, called Shop Healthy, the city encourages a number of marketing techniques in corner stores and bodegas to promote nutrition, including the creation of healthy checkout aisles (Davis, 2014).

Los Primos Supermarket – photo credit: Partnership for a Healthy Durham

In ***North Carolina***, the Partnership for a Healthy Durham and students from the University of North Carolina worked with the owner of Los Primos, a grocery store in a low-income area, to create a healthy checkout aisle. They conducted taste tests and surveys of the store's customers to identify which healthy products to feature in the checkout aisle. Along with fruits and nuts, the aisle features healthy meal starters, such as whole wheat pasta and pasta sauce, and beans and rice (Warnock, 2014).

Fruit, Frisbees, and Balls at Walmart Checkout – photo credit: La Crosse County Health Department

In ***Virginia***, Greater Richmond Fit-4Kids and Martin's grocery stores worked together as part of a regional childhood obesity coalition to create "Healthy Ideas Lanes" in eight Martin's stores. Featuring a mix of fresh produce and packaged foods that meet nutrition guidelines, the Healthy Ideas Lanes made a splash in the local press. Surveys conducted shortly after the launch and again the following year found that the people who used the aisles loved them and that they were most popular among parents who wanted to avoid having their kids ask for candy. Some people did report, however, that they just use the aisle with the shortest line, regardless of what products are placed there (Harms, 2014).

In ***Wisconsin***, the La Crosse County Health Department worked with the manager of the

Walmart in south La Crosse to establish a healthy checkout aisle in the store. The health department encouraged the manager to place fruits, vegetables, low-fat dairy, water, and 100% juice in the aisles, along with sunscreen and lawn games. (Foods such as trail mix and granola bars are also "acceptable.") Although the aisle was temporarily discontinued at the holidays, the manager brought it back, citing customer demand (Lein, 2014).

Love's Fruit Display – photo credit: Love's Travel Stops

Healthier checkout is spreading to stores beyond supermarkets. ***Love's Travel Stops***, headquartered in **Oklahoma**, offers both whole fruit and cut fruits and vegetables at checkout in all of its 300 truck stops and travel stores. The reason? Customers requested the change in the stores and via email and Facebook (Welton, 2014). As part of a commitment to the Partnership for a Healthier America, convenience store retailer ***Sheetz*** now ensures that all new stores display a minimum of 10 product offerings designated "healthier" within three feet of the cash register (CSP Daily News, 2014). Additionally, ***7-Eleven*** stores frequently offer bananas at checkout, alongside less healthy options (Fielding-Singh, 2014).

In Ohio and Oregon, community organizations are working with **corner stores and convenience stores** to improve placement of healthy foods. In ***Ohio***, the Toledo-Lucas County Health Department worked with a corner-store owner to move the produce from a back corner of the store to a display near the cash register. WIC redemptions for fruits and vegetables increased by 50 percent, and because the sales were so good, the store owner had less waste. The effort was so successful that the store owner encouraged other corner stores to join the program (Maziarz, 2014).

In ***Oregon***, the Lane Coalition for Healthy Active Youth worked with convenience-store owners to relocate potato chips away from the register and offer healthy choices instead. One of the most successful aspects of the program is a display of produce—which includes apples, bananas, potatoes, and onions—in the checkout area (Syrett, 2014).

Candy at Sports Authority Checkout, Mesa, AZ (2014)

Healthy Checkout Projects Require Commitment and Continued Support

Not all healthy checkout projects have been sustained over the years, however. In 2011, for example, Sports Authority made headlines when it pledged to remove candy from the checkout areas of all its stores (7News Denver, 2011). The change was short-lived. Now Sports Authority is back to selling candy and sugary drinks near the register. (The company did not respond to inquiries about the change in policy.)

Elizabeth Morris, Director of Community Health Partnerships for the Healthy Communities initiative in Bartholomew County, Indiana, says that despite positive customer feedback and attention from the media, healthy checkout projects in her community have come and gone. An enthusiastic store manager can get a project up and going, but turnover and transfers can halt that progress (Morris, 2014). Claire Syrett, Executive Director of the Lane Coalition for Healthy Active Youth, advises that healthy checkout projects incorporate employee training and a memorandum of understanding (MOU) between the retailer and the local health authority or community organization spearheading the initiative, so everyone is on board with the plan (Syrett, 2014). Additionally, while public health advocates hear anecdotally that shoppers with young children like healthy checkout, no one has collected data to show that parents will wait in longer lines to use those aisles over the candy-laden ones (Morris, 2014).

Three U.K. Grocers Ditch Candy in All Checkout Areas

The most inspiring examples of healthy checkout come from across the Atlantic, where the **grocery chain Lidl** has eliminated candy in all checkout aisles of its 600 stores in the United Kingdom, and two other major grocery chains have followed suit.

Malcolm Clark started his career working for a chocolate company, but now heads up the Children's Food Campaign, a program of the nonprofit organization Sustain. Its mission is to improve child nutrition, and one of its primary campaigns is to "chuck the junk" in supermarket checkout aisles. Early efforts in the 1990s had resulted in many supermarkets pledging to get rid of the candy at checkout: some supermarkets voluntarily adopted formal policies and others made commitments via correspondence with campaigners. However, in 2011, the Children's Food Campaign received a letter from a mother of four whose youngest child had grabbed a chocolate egg from her seat in a shopping cart at the supermarket. "The egg was only worth 50p [85 cents]," the mother wrote, "but I didn't want her to have it, and felt really angry that sweets and other unhealthy snacks were deliberately put there to tempt her and other people while they wait at the checkouts" (Haigh, 2012).

The letter prompted Clark and his colleagues at the Children's Food Campaign to investigate whether all checkout aisles at supermarket chains were candy-free. They were not (Haigh, 2012). Furthermore, candy was being sold in even more non-food stores than in the past. Clark reports that in the past four to five years, clothing stores, music stores, and pharmacies in the U.K. have been stocking candy at checkout, like their American counterparts (Clark, 2014).

Lidl's 2014 survey found:

- 52 percent of parents "find it hard to get their children to eat healthily when there are snacks everywhere—particularly at supermarket checkouts."
- 66 percent of parents give in and buy their children snacks sometimes or all the time.
- 26 percent of parents say their children prefer healthier snacks at supermarket checkouts (Lidl, 2014).

Lidl acknowledges the role of in-store marketing in shaping customer behavior and child demand. It frames its decision to get rid of candy in all its checkout aisles as one of corporate responsibility: "This is all about making it easy for parents to say 'Yes' to something healthy, rather than forcing them to say 'No' to something unhealthy" (Bell Pottinger, 2014).

The Children's Food Campaign launched a campaign to put public pressure on retailers to eliminate candy at checkout altogether. They began an online Wall of Shame, which featured photos of candy-laden checkout aisles, and produced cards that shoppers could hand to their cashier or a store manager asking for 100% candy-free lanes. Most importantly, they made checkout part of the national conversation about child obesity, both in the media and in Parliament (Clark, 2014).

Such was the climate when Lidl approached the Children's Food Campaign about doing a pilot study of a single candy-free checkout aisle in each of its stores. Although Clark confesses that the idea of a pilot study did not impress him—he wants 100 percent candy-free checkout in all stores—Lidl was rigorous in documenting the appeal and popularity of the aisle (Clark, 2014). Lidl found that these checkouts received 20 percent higher footfall than the candy-laden aisles (Lidl, 2014). Additionally, Lidl surveyed its customers and found strong support for the candy-free checkout aisles.

As a result, Lidl decided to eliminate candy from all its checkout aisles, a decision that was heralded not only by Clark and his organization, but also by Public Health Minister Jane Ellison (Lidl, 2014). A key element of Lidl's policy is no exemptions for holidays or seasonal candy. Offerings include fresh and dried fruit, sometimes packaged to appeal to children, as well as nuts and seeds (Clark, 2014).

Lidl undertook a nutritional analysis of its new offerings compared to what it used to stock at checkout and found that they are lower in calories and sugars. The most dramatic improvements are for saturated fat and sodium, which are 52 percent and 85 percent lower per serving (Bell Pottinger, 2014).

A few months after Lidl's announcement, **Tesco, the U.K.'s largest grocery chain**, agreed to remove candy from all checkout aisles in all its stores, including its smaller convenience stores (Craig, 2014). Since then, **discount retailer Aldi** has followed suit, removing sweets from all checkouts in its U.K. stores (Burrows, 2014).

Fresh and Dried Fruit and Boxed Tea Bags at Lidl Checkout - photo credit: Lidl

Recommended Policies and Strategies

Obesity and other diet-related diseases are public health problems that demand public health solutions. Policies can protect people, especially children, from marketing practices that manipulate their food choices and push them toward automatic choices that harm their health.

Displaying products at checkout is a powerful form of marketing that prompts people to buy foods and beverages that they had not planned to buy. Shoppers can avoid a soda or candy aisle, but they cannot avoid checkout.

Retailers

Retailers should not push people in their communities to buy and consume unhealthful foods and extra calories they did not plan to buy, given the high levels of obesity and other diseases caused by poor nutrition.

- Supermarkets, big box stores (like Walmart), convenience stores, and other food retailers should adopt nutrition standards (see Appendix) for foods and beverages placed at checkout. They should prioritize selling non-food items.
- Retailers should not accept placement fees to position candy, soda or other sugary drinks, or other unhealthy foods at checkout. They should phase out and no longer accept "free" shelving or coolers that have candy, soda, or other unhealthy food logos on them or that require a commitment to follow manufacturers' planograms that include stocking unhealthy foods and beverages at checkout.
- Businesses that are not food retailers, such as toy, bed and bath, hardware, office supply, electronic, sporting goods, clothing, and other stores, should not place any foods

Non-Food Items for Checkout:

- Reusable water bottles and to-go mugs
- Hand sanitizer, tissues, and cold medications
- Sunscreen, lip balm, and eye drops
- Razors and toothbrushes
- Lotions, bubble bath, shampoo, and other personal care products
- Nail polish
- Combs, brushes, and hair accessories
- Books, maps, magazines, and bookmarks
- Coloring books, crayons, and flashcards
- Batteries and flashlights
- Flowers
- Gift cards, greeting cards, and wrapping paper
- Playing cards, travel games
- Reading glasses
- Cleaning supplies
- USB cables, flash drives, and cell phone cases
- Headphones and music CDs
- Exercise DVDs
- Frisbees, balls, and jump ropes
- Sidewalk chalk and bubbles
- Matchbox cars and stuffed animals
- Reusable shopping bags
- Pet treats
- ID badge holders

at checkout. As companies well know, the placement of food can prompt its purchase, and most Americans consume too many calories and too much saturated fat, refined sugars, and salt. Non-food retailers could stock the checkout area with non-food items, such as magazines or books, household items like batteries, personal care items (toothbrushes, aspirin, lip balm, and razors), or products that support physical activity like reusable water bottles and pedometers.

Manufacturers and Distributors

- Like food manufacturers have agreed to policies on food marketing to children and to not sell and market soda and nutrition-poor food at schools, they should voluntarily agree not to use placement fees to induce retailers to place unhealthy foods and beverages at checkout. Food manufacturers and bottlers should pledge not to pay fees to place any food or sugary beverages at non-food stores and to only sell healthier products at checkout at food stores by adopting nutrition standards for checkout as part of the company's marketing policy. Most food and beverage companies already sell healthier beverages such as bottled water or low-calorie beverages, or have reformulated food products to meet school nutrition standards, that could be sold at checkout.
- The Council of Better Business Bureau's Children's Food and Beverage Advertising Initiative (CFBAI) should add healthy checkout to its self-regulation program. Children often shop with their parents at a wide range of stores, and placement of products at checkout is a powerful marketing technique. Just as CFBAI applies nutrition standards for products advertised on children's television, so too should its members comply with nutrition standards for foods marketed at checkout.

State and Local Checkout Policies

Public policy is an appropriate and commonly used tool to protect the public's health. For example, policies have removed smoking from restaurants, mandated the use of seat belts, limited air emissions, and required chain restaurants to post calories on their menus. To address checkout, policymakers should urge retailers to ensure healthier options at checkout by passing ordinances or regulations that set standards for checkout. Approaches include:

General and zoning statutes, ordinances, and regulations:

- Set nutrition standards for all checkout areas at retail stores. The New York State Assembly, for example, considered (but did not pass) a bill in 2011 that would have prohibited food stores with 10 or more employees from "displaying candy or sugared beverages at the checkout counter or aisle" (NY Assembly, 2011).
- Require nutrition standards for checkout at stores within a set distance (e.g., 500 feet) of schools.
- Require pharmacies to remove candy, soda, and other unhealthy foods and beverages at checkout (or in the whole store). In a related public health move, more than 100 cities and towns in Massachusetts have banned tobacco sales at pharmacies, and the pharmacy chain CVS has voluntarily discontinued tobacco sales in all of its retail stores. CVS has also pledged a "healthy food makeover." Promoting health should include reducing unhealthy food marketing at checkout.

- Prohibit stores without food licenses from selling food at checkout. Many jurisdictions do not require food licenses for shelf-stable foods such as candy and soda, but policymakers could require food licenses for all food sales, including shelf-stable foods, which would reduce the number of stores that display candy and soda at checkout.

Licenses for food service facilities:

- Place conditions on licenses that require that foods and beverages sold at checkout meet nutrition standards.
- Provide discounts on license fees for retailers that meet or exceed nutrition standards or opt only to sell non-food items at checkout.

Other policies:

- The Federal Trade Commission and state Attorneys General should use their subpoena power to assess the use of placement fees to promote particular foods and beverages in supermarkets and other retail stores, both at checkout and in other parts of the store. Aggregating and analyzing this data, those offices should report to the public how placement fees promote particular foods over others, the types and costs of the fees, the types of foods promoted, and other factors that affect retail food choices.

Government Property, Hospitals, Workplaces, and Other Institutions with Checkout

- Federal, state, and local government agencies should adopt and implement policies to improve the nutritional quality of foods and beverages placed at checkout (and elsewhere) on properties they own or manage, including cafeterias, snack shops, concession stands, and gift shops. They should incorporate nutrition standards into their contracts with vendors.
- Nonprofit and privately owned hospitals, workplaces, and other institutions with checkout (e.g., universities, museums) should adopt and implement nutrition standards for checkout (and elsewhere).
- Health departments should urge retailers and manufacturers (nationally or in their state or community) to adopt voluntary nutrition standards for all checkout areas and support their efforts through positive recognition (press outreach, social media, signs, events, store tours, and healthy food tastings).

Advocacy Organizations, Customers, and Health Professionals

- Advocacy organizations, customers, and health professionals should ask store managers and retail chains to remove food or offer healthier foods at checkout.
- Advocacy organizations should mobilize their members to contact soda, candy, and snack food manufacturers to urge them to sell only healthier beverages and foods at checkout.
- Advocacy organizations, customers, and health professionals should contact their elected officials to support state and local policies to remove unhealthy foods and beverages from checkout.

Appendix: Model Nutrition Standards for Checkout

Adapted from the National Alliance for Nutrition and Activity's Model Beverage and Food Vending Machine Standards, with input from members of the Food Marketing Workgroup's Healthy Checkout Subcommittee

Nutrition standards for foods and beverages at checkout can improve access to healthier selections and reduce marketing and purchases of unhealthy options.

These nutrition standards are based on vending standards that the National Alliance for Nutrition and Activity (NANA) developed to provide as a model for municipal, state, and federal government leased or operated vending machines or vending machines on public property. They are similar, though not identical, to the United States Department of Agriculture's Smart Snacks guidelines for schools.

Nutrition Standards

Beverage Standards:

100% of beverages must be one or a combination of the following:

- Water, including carbonated water (no added caloric sweeteners);
- Coffee or tea with no added caloric sweeteners (if condiments are provided, sugars and sugar substitutes may be provided and milk/creamer products, such as whole or 2% milk, that have less fat than cream);
- Fat-free or 1% low-fat dairy milk or calcium- and vitamin-D-fortified soy milk with less than 200 calories per container;
- 100% fruit juice or fruit juice combined with water or carbonated water (limited to a maximum of 12-ounce container; no added caloric sweeteners);
- 100% vegetable juice (limited to a maximum of 12-ounce container, no added caloric sweeteners, and ≤ 200 milligrams of sodium per container); and
- Low-calorie beverages that are ≤ 40 calories per container.

Food Standards:

Provide an assortment of healthier food choices with more fruits and vegetables, and foods with lower amounts of saturated and trans fats, added sugars, and sodium.

100% of snack foods (and side dishes) must meet all of the following criteria:

- No more than 200 calories per item as offered (per package).
- No more than 35% calories from fat (which would be no more than 7 grams of fat for a 200 calorie snack, for example) with the exception of packages that contain 100% nuts or seeds; snack mixes that contain components other than nuts and seeds must have no more than 35% of calories from fat;
- No more than 10% calories from saturated fat (which would be no more than 2 grams of saturated fat for a 200 calorie snack, for example) with the exception of packages that contain 100% nuts or seeds; snack mixes that contain components other than nuts and seeds must have no more than 10% of calories from saturated fat;

- 0 grams trans fat;
- No more than 35% of calories from total sugars and a maximum of no more than 10 grams of total sugars in the product, with the exception of fruits and vegetables that do not contain added sweeteners or fats; and with the exception of yogurt that contains no more than 30 grams of total sugars per 8-ounce container (and adjust proportionally for smaller containers);
- No more than 200 mg of sodium per item as offered (per package/container); and
- Each snack food item must contain at least one of the following:
    - a quarter cup of fruit, non-fried vegetable, or fat-free/low-fat dairy,
    - 1 oz. of nuts or seeds or 1 Tbsp. of nut butter,
    - at least 50% of the grain ingredients are whole grain (determined by the product having whole grain as the first ingredient, from the manufacturer, or if the product has a whole grain claim), or
    - at least 10% of the Daily Value of a naturally occurring nutrient of public health concern (calcium, potassium, vitamin D, or fiber).
- Sugarless chewing gum can be sold without having to meet the above nutrition standards.

100% of entrée-type foods (e.g., sandwich, pizza, burger) must meet all of the following criteria:

- No more than 400 calories per item as offered (per package);
- No more than 35% calories from fat (which would be no more than 15 grams of fat for a 400 calorie item, for example);
- No more than 10% calories from saturated fat (which would be no more than 4 grams saturated fat for a 400 calorie entrée-type item, for example);
- 0 grams trans fat;
- No more than 35% of calories from total sugars and a maximum of no more than 15 grams of total sugars in the item;
- No more than 480 mg of sodium per item as offered; and
- Each food item must contain at least two of the following:
    - a quarter cup of fruit, non-fried vegetable, or fat-free/low-fat dairy,
    - 1 oz. of nuts or seeds or 1 Tbsp. of nut butter,
    - at least 50% of the grain ingredients are whole grain (determined by the product having whole grain as the first ingredient, from the manufacturer, or if the product has a whole grain claim), and/or
    - at least 10% of the Daily Value of a naturally occurring nutrient of public health concern (calcium, potassium, vitamin D, or fiber).

A list of snacks and beverages that meet the standards are available at http://www.cspinet.org/nutritionpolicy/Vending-Product-List.pdf.

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