Retail Grocery Store Marketing Strategies and Obesity
An Integrative Review
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Context: In-store food marketing can influence food-purchasing behaviors and warrants increased attention given the dramatic rise in obesity. Descriptive and experimental studies of key marketing components have been conducted by consumer scientists, marketing researchers, and public health experts. This review synthesizes research and publications from industry and academic sources and provides direction for developing and evaluating promising interventions.

Evidence acquisition: Literature sources for the review were English-language articles published from 1995 to 2010, identified from multidisciplinary search indexes, backward searches of cited articles, review articles, industry reports, and online sources. Only articles that focused on physical grocery stores and food products were included. Data collection occurred in 2010 and 2011.

Evidence synthesis: Articles were classified in the categories of product, price, placement, and promotion and divided into controlled laboratory experiments, observation, and field experiments; 125 primary peer-reviewed articles met the inclusion criteria. Narrative synthesis methods were used. Key findings were synthesized by category of focus and study design. Evidence synthesis was completed in 2011.

Conclusions: Findings suggest several strategies for in-store marketing to promote healthful eating by increasing availability, affordability, prominence, and promotion of healthful foods and/or restricting or de-marketing unhealthy foods. Key results of research in controlled laboratory studies should be adapted and tested in real-world in-store settings. Industry methods for assessing consumer behavior, such as electronic sales data and individually linked sales information from loyalty card holders, can help public health researchers increase the scientific rigor of field studies.


Context
The prevalence of obesity has steadily increased for 2 decades, and addressing this problem is a national health priority.1 Increasingly, public health experts have highlighted the importance of understanding how the environments in which people live, work, and play affect their health, including obesity-related factors.2 The role of marketing and advertising of unhealthy foods, especially to children, has also been highlighted.3 Retail grocery stores, the primary locations for food purchases, are receiving increased attention as an environment that may be ripe for public health interventions.4 Grocery stores are pivotally positioned between the public and the products they eat and are an opportune place to harness marketing power to prevent obesity.

Supermarkets are strategic and critical allies in the fight to prevent obesity.5–10 Grocery stores can provide critical opportunities to increase access to healthy foods, including fresh fruits, vegetables, and lean meats, potentially improving health and curtailing the rise in obesity. The health effects of increasing the presence of grocery stores in disadvantaged neighbor-
hoods are not clear, although evaluations are under way. One recent study linked the proliferation of Walmart Supercenters to increases in obesity, in part because of the low cost of foods at these stores. A better understanding of how supermarkets create demand for healthy and less-healthy purchasing patterns needs to be part of the toolkit of health advocates and researchers.

Much remains to be learned about food marketing at grocery stores, including labeling, packaging, pricing, and point-of-sale advertising practices that can help address the growing burden of obesity. To date, however, most of this research has not been familiar or accessible to public health professionals. Research and publications on marketing and consumer behavior and industry sources can provide valuable foundations for progress in understanding and harnessing health-promoting grocery store marketing strategies. The current study reviews research on the topic and provides direction for developing and evaluating possible interventions.

Evidence Acquisition

Scope and Conceptual Framework

The core references for this review were publications that focus on aspects of food marketing confronted by consumers in grocery stores, components of those strategies, and consumer responses to in-store marketing. This paper does not focus on food marketing conducted through broadcast media, online/Internet marketing, or outdoor advertising, as these issues have been reviewed and discussed elsewhere. The overarching conceptual framework used to organize the review is based on the key strategic elements of the marketing mix, or the 4 P’s: product, price, place, and promotion.

Search Strategy and Inclusion Criteria

The literature sources for this review were publications that focus on retail grocery food sales. This paper does not focus on food marketing conducted through broadcast media, online/Internet marketing, or outdoor advertising, as these issues have been reviewed and discussed elsewhere. The overarching conceptual framework used to organize the review is based on the key strategic elements of the marketing mix, or the 4 P’s: product, price, place, and promotion.

In total, 125 original research articles were included in the review. Primary research articles were supplemented with (1) review and commentary articles identified during the search process (n=21); a seminal book on consumer marketing in grocery stores; and industry reports (n=5) and key online sources of relevant descriptive data that the authors received through participation in academic–industry conferences on the topic. Evidence acquisition occurred in 2010 and 2011.

Evidence Synthesis

Evidence synthesis was completed in 2011. Article abstractions included summaries of goals, methods, and key findings. Quantitative methods and meta-analysis were not feasible given the wide range of outcomes, measures, and research designs in the multiple disciplines represented in evidence sources. Narrative synthesis of the findings was used to extract and summarize findings from multiple studies across disciplines, by juxtaposing findings from multiple studies with common themes. Key findings were synthesized in the categories of product, price, placement, and promotion. Within categories, research was synthesized by main study design features: controlled experiments, observational, and community intervention studies. (Appendix B, available online at www.ajpmonline.org, provides a glossary of market research and retailing terms.)

Trends in Retail Grocery Food Sales

Although consumer food markets are changing rapidly, traditional full-service supermarkets continue to dominate retail food sales. Two thirds of grocery shoppers are women, and they are most likely to shop on Fridays and weekends. The recession of the past few years has increased consumers’ cost-saving efforts; price increasingly drives the choice of stores and products, and the use of coupons and bargain shopping is on the rise.

A few important trends in food shopping are noteworthy. Private label, or store brands, are taking an increasing share of consumer shopping dollars as the importance of national brands declines. Shoppers’ stated priorities are quality, or taste, and price; although many say they are increasingly interested in healthy choices, their shopping behaviors do not always favor healthful products. Demand for locally grown food is increasing. Loyalty cards and slotting allowances remain important.
Findings

Findings are described here in categories aligned with the four “marketing mix” components: product, price, place, and promotion. Some studies are reported in more than one section. Within each section, findings are described first for controlled and laboratory studies and then for observational and community intervention studies.

Products. Grocery retailers decide what products to stock, how many to stock, and how much variety (assortment) to offer, or product assortment, the focus of 30 papers. Consumers value variety, which generates traffic to stores; however, too much choice can be overwhelming and consumers prefer fewer options, provided that their preferred brand or product is available. Consumer perceptions of how much variety exists is not completely correlated with actual variety and is conditioned by consumer goals (e.g., to find a specific product versus to choose among a variety); the traits on which they evaluate products; whether they are choosing a hedonic versus utilitarian good; and whether they rely on external aids such as shopping lists to make their decision.

The assortment of products is related to its placement in the store, discussed later under Placement. The design of products and packaging was the focus of ten papers. Unusual colors or shapes can be used by marketers to increase interest in products and is especially pervasive among “fun foods” marketed to children that are largely unwholesome. Package design, including where text and images are placed, influences product recall and can influence purchases, although the influence of design differs by the type of display consumer segments seek (convenience, information, or images). Package sizes have a relatively strong influence on consumption; larger packages might increase per-use consumption but smaller packages might not improve self-regulation and may actually increase total consumption.

Finally, private labels (store brands) were the focus of six studies. Quality private-label brands positioned to compete with top-selling national-level brands lead to profitability of both retailer and leading national brands at the expense of second-tier brands, particularly by attracting price-conscious consumers to the store brand from second-tier brands. Retailers value private-label brands because they increase leverage in negotiations with manufacturers and foster customer loyalty to retailers. From a health standpoint, private-label brands provide an opportunity to create food products that are lower in calories, fat, and added sugars.

Several observational studies in community settings address the association of product availability and food purchasing, eating patterns, and weight. Although there is substantial research examining the association between proximity to different types of food stores and healthier diets and less obesity, fewer studies examine associations of diet and health with food availability within stores. Some early studies found that measures of selected types of healthy food product availability in stores were associated with individual dietary practices at the community and ZIP-code levels. Follow-up research, however, suggested that changes in food product availability were not consistently associated with changes in dietary patterns.

Recent studies of availability of food products in stores examined correlates of both healthier and less-healthy products. Andreyeva et al. review price information, differences across types of products, and was the topic of six articles. Andreyeva et al. review price elasticity across different categories of food, and public health experts agree that price manipulation is an important tool for promoting healthy diets, although who should bear responsibility for the costs of price changes is debated.
Studies of category-level elasticities emphasize the importance of consumer demographics on price sensitivity and find that disadvantaged groups and large families increase price elasticity, whereas store volume and geographically isolated stores lead to lower elasticity. Among in-store factors, within-category characteristics such as lead-brand market share increase whereas brand price and product bulk decrease category-level price elasticity more than promotion-related factors.

Demographic influences on price elasticity might result from different price search practices among consumers. Consumers generally can be segmented according to price-seeking behavior. Specifically, shoppers with large baskets tend to shop at stores with an “Every Day Low Pricing” format while small-basket shoppers (who tend to be older, lower-income, and have smaller families) prefer “Hi–Lo” format stores, and shoppers with high opportunity costs shop more regularly.

Price promotion strategies and methods used by grocery retailers are the topic of seven controlled studies. One focuses on the extent to which consumers take advantage of featured advertising by retailers and finds that 39% of items in consumer baskets were promoted by retailers, with higher levels among poorer residents and those who read weekly circulars. Six studies of in-store coupons found that delivery of in-store coupons raises a consumer’s positive affect, which leads to more purchases overall and more unplanned purchases related to the promoted product. In-store coupons can also increase retailer and manufacturer profits through price discrimination because of incomplete redemption. Cross-promotion of products through a variety of methods can help increase traffic to a store and increase traffic to untraveled areas in stores; however, the cross-promotion must be designed carefully because characteristics of the products and categories being promoted may influence consumer behavior.

The use of price promotions can also lower the price image of stores and increase perceived value, although the price image can also be cultivated through other means including stores’ external architecture and service quality. The periodicity of price promotions also deserves consideration. Pricing timelines vary and the duration of coupons can influence profitability. Stockpiling (i.e., purchasing more than is immediately needed) due to price reductions can increase the convenience of products and lead to greater consumption.

In community research, pricing strategies have included price reductions and coupons. These strategies have been well received, but to date there is little evidence of their effectiveness. A study in New Zealand randomized shoppers to receive price discounts, tailored nutrition education, both, or a control condition and measured outcomes using personal scannable cards. There was no significant overall impact of either price discounts or education, although participants receiving discounts bought more of a subset of designated healthier foods after 6 months. The challenge of financing and sustaining store-based price reductions in field research may limit testing of these strategies in real-world settings.

Placement. A growing movement in grocery retailing is the coordination between manufacturers and retailers through category management. This streamlining of distribution provides retailers benefits over product management, but the approach tends to ignore potential consumer benefits such as identifying new products or effectively managing stocking of particular brands. Academic approaches to the topic, however, reveal a high level of shelf-space elasticity and that differences in assortment breadth and depth are less influential on retail sales of staples than of fill-in, niche, or variety-enhancing products.

A focus on the in-store location of products is gaining growing attention among retailers and researchers under the rubric of “aisle management.” This research shows that the proximity of categories to one another can influence cross-category purchases, as both facing aisles and end-of-aisle displays can increase purchases on a scale comparable to other marketing mix strategies, although these location effects do not affect products symmetrically. Physical location can facilitate comparisons on different attributes. For example, Desai and Ratneshwar find that the positioning of low-fat variants of junk food influence perceptions of those foods. When such foods are in a health-food section, they are perceived as better tasting and less healthy than when they are positioned with junk food of the same category. In addition, if consumers purchase products in “virtue” categories early in a shopping trip, they increase purchasing of “vice” products later in the trip, although this may vary by economic and demographic characteristics of consumers.

In community research, placement strategies may deal with altering the in-store location of food products (e.g., at the end of aisles, on shelves, at eye level, or grouping/lack of grouping of foods). No published evaluations of these strategies were identified in the literature search. One report of an innovation in placement is the introduction of youth-designed “healthy checkout aisles” for a Wal-Mart store, first reported as part of the California Endowment’s Healthy Eating, Active Communities (HEAC) Program. A midpoint review of HEAC indicates that this strategy “contributed to a healthier food environment,” but no impact data for this specific strategy have been reported.
Promotion. The final element of the marketing mix is promotion, the topic of 24 articles, many of which overlapped with those in the Product and Placement categories. A number of methods are available for delivering promotions to consumers, including trade deals (discounted sales to retailer by manufacturers; this overlaps with “price” strategies), displays, featured advertising, and point-of-purchase information; general findings of research on promotion are reviewed in Blattberg et al. Consumer differences influence the impact of the delivery method on sales as consumers vary in their latent proneness to the type of promotion (display, rebate, coupon, and sale). They are also influenced by the type of shopping trip, with unplanned purchases on products being more prevalent on major shopping trips, when stores are selected for low prices or attractive promotions, and when the unplanned purchase of a promoted item reduces the number of stops on a trip. The effects of promotions on individual products vary by the characteristics of the product, especially when the nature of the promotion leads consumers to directly compare similar products.

Eight articles focused specifically on health messages. Consumer research conducted for Europe’s front-of-package nutrition labeling program shows that consumers find nutrition labeling programs helpful, particularly when the information is presented succinctly and among obese or older consumers. Health is seen as a beneficial marketing strategy as nutrition claims lead to higher product evaluation and lower perceived health risk, even in the presence of contrary information. In addition, labeling products as “low fat” can actually increase consumption, though the impact may vary between normal-weight and obese people. These studies did not jointly assess purchasing with food consumption outcomes.

Promotions targeting children highlight a number of important issues in regard to the influence of in-store environments and childhood obesity. Children also influence purchases of routine household items not exclusively intended for children. While packaging is not included in industry self-regulation of marketing, promotions targeting children remain pervasive. Package designs and colors provide semiotic cues about whether the product is “fun” or “healthy and boring.” Character licensing is a form of promotion targeting children. A recent study by Harris and colleagues finds that five categories of food make up two thirds of the promotions targeted at children (cereals, fruit snacks, meal products, frozen dessert, and candy), and only 10% of products using child-oriented cross-promotions met IOM nutrition standards.

Three studies examined the promotional relationships between retailers and manufacturers. The power of grocery retailers relative to manufacturers is increasing, in part through private-label programs and in part through greater assertion of control in the promotion and delivery of products to consumers, and in distribution methods such as slotting fees.

In community-based research on promotion, a recent systematic audit of cereal placement and in-store marketing found that the least-healthy cereals were most marketed to children. The most-studied promotion interventions in food stores involve point-of-purchase (POP) nutrition information, signage, and posters. Most studies of these strategies in supermarkets have found POP strategies to be ineffective, except in a few cases where sales of specific targeted or “recommended” foods were increased after interventions. Health communications to increase demand have been found to contribute to success in corner store interventions. One cluster-randomized study of promotional public service announcements and audiotapes in stores found increased fruit and vegetable intake in both treatment and control groups, with somewhat greater increases in treatment-group shoppers.

There are no published community studies of other in-store promotional interventions including signage, banners, increased advertising, samples, and taste-testing. However, industry reports describe shoppers’ profiles, priorities, and interests related to healthier food shopping. A 2010 national survey of a representative sample of shoppers found that 66% of shoppers are receptive to programs or services to help them make more-healthful food choices in shopping. They say they are most interested in coupons with price reductions for healthy foods, reward programs for purchasing healthier products, and promotion strategies including shelf labels identifying healthy products, product sampling and tasting, and healthy recipes. As far as in-store promotional appeals are concerned, shoppers most often notice end-of-aisle displays, merchandising displays, department signage, and shelf strips and shelf blades; they describe these channels plus product information on shelves as most influential on their purchase decisions.

Discussion

This review of scientific literature and industry reports on in-store marketing related to healthy food choice and obesity yields several lessons. Key findings, promising strategies, and research needs are summarized in Table 1. One important finding is that, to date, there is limited evidence that increasing access to healthy food products in stores increases healthful eating. Also, in large grocery store environments, point-of-purchase...
Table 1. Key findings, promising strategies, and research needs

<table>
<thead>
<tr>
<th>Key findings</th>
<th>Promising strategies</th>
<th>Research needs</th>
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<tbody>
<tr>
<td><strong>Products</strong></td>
<td><strong>Ensure availability of healthful products.</strong></td>
<td><strong>Rigorous evaluation designs, quality measures of foods and diet.</strong></td>
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<tr>
<td>Access to healthy foods may increase healthful eating.</td>
<td>Reduce/restrict/replace unhealthy foods.</td>
<td>Experimental research to supplement cross-sectional research.</td>
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<tr>
<td>Less access to unhealthy foods may promote health.</td>
<td>Provide small package sizes with prompts for self-regulation.</td>
<td>In-store research to test small packages and images on healthy items.</td>
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<td>Product packaging (size) and images affect purchase and consumption.</td>
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<tr>
<td><strong>Price</strong></td>
<td><strong>Reduce prices for healthier items within categories (e.g., fruits, vegetables).</strong></td>
<td>Evaluation of impact on varied income groups.</td>
</tr>
<tr>
<td>Price-change effects vary for customer subgroups.</td>
<td>Use price reductions to increase acceptability of unfamiliar healthier foods.</td>
<td>Test effects and sustainability; qualitative research useful.</td>
</tr>
<tr>
<td>Coupons and cross-promotion increase product liking and purchase.</td>
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<tr>
<td><strong>Placement</strong></td>
<td><strong>Place lower-calorie and healthier foods in visible, accessible locations.</strong></td>
<td>Evaluate the use of placement manipulations in stores within and across products.</td>
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<tr>
<td>In-store location matters; putting promoted products in prominent and “early trip” locations.</td>
<td>Place multiple healthy checkout aisles in stores to shift the healthy/unhealthy balance.</td>
<td>Rigorous impact evaluation and reliable/valid measures of checkout aisle offerings.</td>
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<tr>
<td>Healthy checkout aisles can be helpful for reducing unhealthy impulse purchases.</td>
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<tr>
<td><strong>Promotion</strong></td>
<td><strong>Increase promotion of nutrient-dense child-oriented foods.</strong></td>
<td>Demonstration projects with health-committed cereal manufacturers.</td>
</tr>
<tr>
<td>Most promotions of child-targeted foods are for sugary foods.</td>
<td><strong>Decrease promotion of sugary foods.</strong></td>
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</table>
Accurate measurement of in-store marketing environments is essential in assessing their effects on consumer behavior. Although the Nutrition Environment Measures Survey for stores tool assesses the availability of products and prices of key healthful foods compared to their less-healthy counterparts, no tools comprehensively address the additional components of the marketing mix in stores—placement and promotion. Elements of tools that assess aspects of grocery marketing environments in the U.S. and England are a useful foundation for these assessments. Measures need to be stable over time and sensitive to change in store environments.

Research on pricing and fiscal policies provides important insights that supplement in-store marketing research. Lower prices for vegetables, fruits, and dairy products have been found to predict lower gains in BMI among children, as well as intake of these products, but price variation for fast food and soft drinks did not predict consumption of these foods. Analyses of the impact of taxes and subsidies have yielded mixed conclusions. One review concluded that small taxes or subsidies are not likely to significantly affect BMI or obesity prevalence. Another assessment found that taxes and subsidies generally influenced consumption and body weight in the desired direction, with larger taxes effecting greater change.

Increasingly, industry methods are being used in public health research to determine consumer behavior and shopping patterns. Electronic supermarket sales data, inventory data and loyalty card output, which are not typical public health research tools, can be used to evaluate the impact of food marketing for diverse populations. There is a need to build an evidence base for how to sell more-nutritious foods, and fewer low-nutrient, high-calorie food/beverage products, to children and families in a profitable or cost-neutral way. This can be best accomplished by encouraging retailers, designers, and public health researchers to come together to design and evaluate promising health-promoting marketing strategies.

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References


Appendix

Supplementary data


A pubcast created by the authors of this paper can be viewed at www.ajpmonline.org/content/video_pubcasts_collection.

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Appendix A

Search Terms

Consumer psychology grocery store
Shopping behavior grocery store
Grocery store environment
Corner stores
Atmospherics
Grocery store layout
Healthy checkout aisles
Display marketing food store
Shelf placement in grocery stores
Shelf location in grocery stores
Grocery store slotting fees
Slotting allowances
Signs in grocery stores
Promotions in grocery stores
Point-of-purchase marketing
In-store marketing
Shopper marketing
In-store coupons
Instant coupons
Grocery store coupons
Store loyalty cards
Obesity
Loyalty cards
Display marketing
100 calorie packs
Food packaging
Food price interventions
Food taxes
Appendix B

Glossary of Terms

**Category management**: employing a single individual who is responsible for a store’s product line; usually considered an alternative to brand management in which multiple decision makers act on behalf of a specific brand within the store or firm

**Character licensing**: the association of a food product with a popular character as a promotional strategy

**Cross-promotion**: promotion of a good or service coupled with the promotion of another product (e.g., promoting fruits such as bananas or strawberries alongside cereal displays)

**Hedonic goods**: goods whose consumption can be characterized as an affective multi-sensory emotional experience that includes pleasant tastes, sounds, scents, tactile impressions, and/or visual images; presentation or promotion is far more subjectively than objectively oriented

**Hi–Lo pricing**: pricing strategy in which a good or service is priced high and promotional discounts are provided for a period of time (“low pricing”) to increase consumer purchasing

**Loyalty cards**: provided to shoppers who provide a limited amount of personal information and pay lower prices for selected promotional items; consumers who are not loyalty card holders pay higher prices for these items

**Price elasticity**: Responsiveness of the demand for a good or service to a change in its price; specifically, the unit increase in sales resulting from manipulating a factor (e.g., price, shelf-facings, point-of-purchase information); at the “category-level”: relative responsiveness to a change in the price of one category of products (e.g., fruits) relative to another category (e.g., baked goods)

**Private label/store brands**: products manufactured by and sold at a specific store or chain of stores, as opposed to national brands that are sold across multiple stores and chains

**Semiotics/semiotic cues**: signs and symbols in labels and other promotional tools, designed to deliver subliminal or latent messages to produce reactions and emotions in the consumer

**Shelf-space elasticity**: responsiveness of the demand for a good to the amount of shelf-space allocated to that product

**Sloting allowances (sloting fees)**: payment by a manufacturer or vendor to a retailer in order to ensure shelf-space in the retailer’s store(s) or in its warehouses

**Stockpiling**: a large accumulation of goods, in a greater quantity than is immediately needed

**Trade deals**: sales discounted by a manufacturer to a retailer

**Utilitarian goods**: goods whose consumption is more cognitively than emotionally driven, is instrumental/goal-oriented, and designed to accomplish a functional or practical task
References for Appendix B