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The effects of advertising and other marketing communications on health-related consumer behaviors

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Advertisements and other marketing communications extensively discuss food and nutrition, tobacco, alcohol, and prescription drugs. In addition to mass media advertising and public service announcements (PSAs), messages are placed on product labels and in television shows and social media. Research indicates that these health-related communications can have significant and measurable effects on consumer cognitions, emotions, and behaviors. Some messages enhance health by discouraging unhealthy or risky consumption; others do the opposite. While many messages have their intended effects, other messages are discounted or even counterproductive. The specific effects often depend on message content and/or execution in combination with consumer characteristics. Therefore, it is important to tailor the communications to the target consumers, and to test for intended and unintended effects.

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Research on how product advertising, public service announcements (PSAs), and related marketing communications may influence consumers and their health has long been of interest to scholars from numerous disciplines [1–3]. Unifying theories remain elusive, but research has provided many important insights about how advertising and other marketing communications are used and how they may affect consumer health and well-being.

The two main goals of this review paper are to: firstly, assess the contemporary state of inquiry from 2009 to the present into how advertising and other related marketing communications can affect consumer health, and secondly, highlight theoretically interesting and substantively important findings. In this review, we examine traditional mass media advertising as well as PSAs and messages on product labels and in television shows and social media.

Our review of the literature on advertising, marketing communications, and health in the top journals in marketing, psychology and health communication identified three major areas of inquiry: firstly, food and nutrition, secondly, tobacco and alcohol, and thirdly, direct-to-consumer (DTC) advertising of prescription drugs. Researchers have studied these topics using various methods including experiments, surveys, content analyses, secondary data, in-depth interviews and neuroscience; and we will review the main findings below.

Food and nutrition advertising

How food and nutrition advertising and related marketing communications affect eating has been, and continues to be, a popular research area. The specific topics that have been studied extensively in recent years include: firstly, consumer responses to food-related advertising and product labeling, secondly, individual differences in consumer response, and thirdly, how children respond.

Many studies have examined how consumers respond to functional food ad claims, for example, claims about a food's physiological or drug-like effects. One study investigated exposure to a medical article questioning (versus supporting) the purported benefits of a functional ingredient (e.g. "contains lignans, fuel to boost your immune system"). Results suggest that when consumers saw the medical article casting doubt on the functional food claim, those with lower levels of health consciousness (i.e. who viewed food ingredients as personally less relevant) exhibited a lower likelihood of choosing the product, but those with higher levels of health consciousness continued to express interest in the product [4]. Another study found that functional health claims for an otherwise unhealthy food (e.g. high antioxidants in a chocolate bar) failed to promote consumption of the food. These claims had strong health connotations, increased health goal salience, thereby increased goal conflict due to the indulgent nature of the food, and actually reduced consumption of the food [5]. In contrast, hedonic health claims (e.g. low fat in a chocolate bar) did promote consumption. These claims had strong taste connotations,

reduced health goal salience, lowered goal conflict, and increased consumption of the food.

Other researchers investigated the effects of labeling unhealthy food items on restaurant menus, as well as the effects of price surcharges for such items [6••]. Employing either approach alone did not deter demand for the unhealthy food items, but combining the two approaches worked. Also, a study about using nutritional facts to deter unhealthy food consumption found it was beneficial to use reference points, for example, to highlight that a product had 10 g of fat compared to the standard 30 g, versus simply stating it had 10 g of fat [7]. Other researchers found that even seemingly unrelated positive information about a food manufacturer's corporate social responsibility can create a ''health halo'' that can decrease estimates of their products' calorie content and can increase consumption of their products [8•].

Very simple package icons or visual symbols can also affect food consumption. One study compared two icon approaches (Smart Choices versus Traffic Light Guideline Daily Amounts) and found that the less visually complex approach (Smart Choices) tended to result in nutritional evaluations that were overly positive [9]. Also research conducted in a retail setting found that consumers with low (versus high) levels of self-control benefitted the most from traffic-light styled icons on food packages, in terms of resisting unhealthy food purchases [10••].

Researchers have also investigated how individual differences can impact consumers' interpretation of and response to nutrition-related labeling and advertising. One study found that consumers with a French cultural mindset, a mindset that focuses on food enjoyment, evaluated foods that provided nutritional information less favorably and as posing more health risks, apparently due to cultural incongruence. These effects were not found for consumers with an American cultural mindset [11•].

Another study found that response to advertising for a weight management program was influenced by consumers' temporal orientation and whether their prevention or promotion focus matched the goal pursuit strategy featured in the ad [12]. For instance, among promotion-focused college students, that is, those who were motivated to achieve positive outcomes, an ad highlighting an eager goal pursuit strategy such as ''seek healthy foods'' was more effective than one with a vigilant strategy such as ''avoid unhealthy foods''. This differential response was strongest among students whose temporal orientation was to avoid considering the future consequences of their actions. An additional study on weight management found that consumers' motivation to participate in a diet program was undermined by the use of thin rather than normal sized models in the program materials [15]. A different study found that both older and less educated consumers were more likely to recall ads about increasing physical activity [13].

Research also suggests that response to food and nutrition advertising relates to consumers' salient motivations. One study found that intent to purchase organic foods was related to altruistic motives such as being environmentally friendly, not just egoistic motives such as nutritional value [14•]. Hence an egoistic appeal alone was less effective, relative to a combined egoistic and altruistic appeal or an altruistic appeal alone.

Due to ongoing concerns about childhood obesity, a number of studies have sought to better understand the factors influencing children's nutritional choices. One study found that promotional materials that highlighted that a healthy kid's meal came with a toy increased its choice share, but only when the unhealthy alternative meal did not include a toy [16]. Another study found that materials depicting overweight (versus normal weight) cartoon characters activated an overweight stereotype and increased children's food intake [17•].

A study on food PSAs for children found that, to promote fruit eating, PSAs were more effective when they used gain frames about the positive benefits of consuming more, rather than loss frames about the negative consequences of consuming less; and when they used affirmation rather than negation language, for example, ''more healthy'' as compared to ''more unhealthy'' [18]. However, the opposite effects were found for PSAs to discourage unhealthy lollipop eating. Also older children were more affected by these linguistic variations. In different work involving field studies at schools, pledges, incentives, and competitions were found to encourage children to eat healthier; however, competitions and incentives were better for younger than older children [19]. Yet another study found that a Canadian ban on ads directly aimed at children (food or otherwise) was found to be related to less fast food consumption [20].

Tobacco and alcohol advertising

Tobacco-related and alcohol-related advertising and related marketing communications have been studied extensively for decades, including both messages to encourage and discourage use [1,21]. This research continues and, recently, much of it has focused on these topics: firstly, how product advertising affects overall product consumption, secondly, current pro-use and anti-use advertising themes and trends, thirdly, what features of PSAs may enhance their efficacy, fourthly, tobacco and alcohol messages in TV shows and social media, and fifthly, new research methods for studying advertising effects.