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# How nutrition information frame affects parents' perceptions of restaurants: The moderating role of information credibility



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#### ABSTRACT

Adding easy-to-read information on menus is recommended for customers' healthy food selections. But what format yields the best outcomes for restaurateurs has not been investigated. We use the emphasis framing effect as a theoretical lens to examine how the credibility of nutrition information affects parents' perceptions of restaurant healthfulness and trustworthiness when exposed to two nutrition information frames on children's menus: numeric values only and numeric values with low-calorie symbols. The results of the experimental study show that parents who do not perceive nutrition information as being highly credible perceive restaurants providing numerical values only as more healthful and trustworthy. However, parents who do perceive nutrition information as being highly credible perceive restaurants as more healthful and trustworthy when both numeric values and low-calorie symbols are presented and have more positive perceptions overall. We advise restaurateurs to increase nutrition information credibility and provide additional easy-to-read information to elicit more positive perceptions.

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#### 1. Introduction

The restaurant industry is at the center of a public debate over poor nutritional guality and large portion sizes of food for children in both the United States and South Korea. It has been reported that most children's menus at fast food restaurants in South Korea are comprised of energy-dense and nutrient-poor food choices (Choi, 2003; Yoo, 2010). Caregivers have noticed that children's foods at restaurants are high in calories and fat and have requested more healthful options (Lee et al., 2012). Public interest in children's food at restaurants has increased as childhood obesity has become a serious issue in children's health (Story et al., 2008). In the United States, the rate of childhood obesity has continuously increased, and almost third of children and adolescents between 2 and 19 years old are overweight (Ogden and Carroll, 2010; Ogden et al., 2010). As in the United States, concern has increased in South Korea about the high prevalence of childhood obesity. The prevalence of obesity among South Korean children and adolescents has increased significantly, from 5.8% in 1997 to 9.6% in

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2012 (Ministry of Health and Welfare, 2013). Accordingly, the restaurant industry has begun to implement changes to satisfy parents' increasing demands for healthful children's menus by providing healthier items (e.g., fruit options or low-fat milk) and presenting nutrition information on menus (Center for Science in Public Interest, 2013). According to the 2014 annual report of the National Restaurant Association (2014), the top 10 menu trends for 2014 included providing healthful kids' meals and improving children's nutrition.

Disclosure of calorie and nutrient information on children's menus at restaurants has been proposed as a way to empower caregivers and ultimately reduce childhood obesity (Executive Office of the President of the United States, 2010). In 2013, the U.S. Food and Drug Administration (FDA) required restaurants with more than 20 units to provide calorie information on all menus and menu boards. Restaurants with fewer than 20 locations can voluntarily participate in the federal menu labeling requirements (US Food and Drug Administration, 2013). In South Korea, the *Special Act on Safety Management of Children's Dietary Life* was signed into law in March 2008. This act requires calorie and nutrient information (i.e., sugar, protein, saturated fat, and sodium) to be provided on menus at fast food chains with 100 or more units (Ministry of Food and Drug Safety, 2010). Since 2010, family restaurants in South Korea have been voluntarily presenting calorie and nutrient information.

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The effect of nutrition information on food selection has been found by previous studies, although the results are inconsistent (Harnack and French, 2008). Several studies have investigated the effects of providing nutrition information in Korean fast food restaurants (Lee and Lee, 2011), bakeries and ice cream shops (Choi and Lee, 2011) and fine dining restaurants (Lee et al., 2013). Almost half of the customers who saw nutrition information on menus changed their menu selections (Choi and Lee, 2011; Lee and Lee, 2011). It was also reported that the presentation of calorie information led visitors at fine dining restaurants to choose lower calorie items (Lee et al., 2013).

Recently, scholars have tried to find the most effective format for presenting nutrition information so that customers choose healthier items (e.g., lower calorie foods). For example, Ellison et al. (2013) suggested adding healthy symbols to numerical information. Dowray et al. (2013) found that adding information about the running time required to burn the calories consumed would be more effective than providing only numerical information. However, to the best of our knowledge, very few studies have considered how the additional informational items (e.g., symbols) influence consumers' perceptions of restaurants. In other words, does providing additional nutritional information cause consumers to perceive restaurants as more healthful? When making changes in the restaurant environment, restaurateurs search for potential advantages that could be marketed in order to create a brand image as community-minded and caring with respect to the health of children and families (Economos et al., 2009). In the present study, therefore, we focus on outcomes that are more salient to restaurateurs. We consider the impact of different nutrition information frames on consumers' perceptions of restaurant healthfulness and trustworthiness.

Framing effects have been widely studied in communication (Carragee and Roefs, 2004; Semetko and Valkenburg, 2000). Druckman (2001a) identified an *emphasis framing effect*: when speakers or messages emphasize specific attributes of an issue or object, message recipients tend to focus on the emphasized attributes when evaluating that issue or object. In this study, we tested the emphasis framing effect in the restaurant context as we assessed parents' psychological reactions to nutrition information. We provided parents with children's menus that included numeric nutrition information and low-calorie symbols (the emphasized attribute) and hypothesized that they would focus on the low-calorie information when developing perceptions of the restaurant.

Druckman (2001b), however, asserted that the success of the framing effect is contingent on source credibility. According to attribution theory, customers assess whether the provided information is accurate (Eagley and Shelly, 1975). If source credibility is low, customers do not believe the information and perceive it as less useful. Grewal et al. (1994) found that source credibility affects how consumers develop perceptions of new products or brands. Compared to non-users, nutrition label users believe nutrition information to be more truthful (Smith et al., 1999). Thus, we hypothesized that the development of restaurant perceptions after exposure to nutrition information would be moderated by the extent to which customers believed the nutrition information to be true, which we call *nutrition information credibility* in this study.

To summarize, the purpose of this study is to examine if the emphasis framing effect of nutrition information on parents' perceptions of restaurants (restaurant healthfulness and trustworthiness) is contingent on nutrition information credibility. Given the serious issue of childhood obesity and increasing public interest in children's menus and nutrition information, we developed survey questions related to children's menus at restaurants and assessed parents' opinions.

#### 2. Literature review

#### 2.1. Perceptions of restaurants that provide nutrition information

Previous studies on nutrition information (Dumanovsky et al., 2011; Kuo et al., 2009; Peterson et al., 2010) focused primarily on changes in customers' food selections, although findings are inconsistent (Harnack and French, 2008). For example, Temple et al. (2011) found that nutrition labeling decreased energy intake, especially, simplified information with traffic light symbols increased consumption of nutrient-dense foods. Wisdom et al. (2010) tested how providing daily calorie recommendations with calorie information for menu items influences food selections, and found that diners order significantly fewer calories when specific calorie information and daily calorie recommendations are provided. Downs et al. (2013) considered whether presenting the recommended number of calories next to nutrition information influences customers' food selections. Downs and colleagues conducted the study before and after chain restaurants in New York City were required to post calorie information, and found no effect on food purchases.

Researchers have become interested in how customers' perceptions of restaurants change after exposure to nutrition information. Common finding suggests that presenting nutrition information on menus influences consumers' evaluations of restaurants, including food quality and even service quality. Cranage et al. (2004, 2006) showed that consumers evaluate restaurants' food, service and overall quality more favorably when they are presented with nutrition information on menus, even when there are no changes whatsoever to menu offerings and service personnel. Lee et al. (2014) found that consumers perceive restaurants that provide nutrition information as more socially responsible.

In addition to positive evaluations of restaurants' overall quality, consumers perceive restaurants, brands, or products as healthy and trustworthy when nutrition information is provided. Using four different formats for nutrition information (i.e., no calories, calories, rank-ordered calories, and colored calories) on restaurant menus, Liu et al. (2012) found that in general, people perceive restaurants that present calories in color as the most healthy. Grunert et al. (2011) stressed that nutrition labels on food products positively influence consumers' brand choices by enhancing a brand image as being healthy. Also, people consider snacks and beverages presented with nutritional claims as more healthy than those presented with no claims (Soldavini et al., 2012).

#### 2.2. Framing theory

Prior research findings show support for providing additional and easy-to-understand information alongside numeric information to lead consumers to select more healthful items. For example, when consumers were provided with traffic light symbols in addition to numeric calorie information, they identified healthful foods more easily (Jones and Richardson, 2007). Adding symbols to numeric information helps consumers select more healthful items (Ellison et al., 2013). Presenting information on how long individuals would need to walk in order to burn the calories consumed alongside numeric values also leads consumers to select lower calorie items (Dowray et al., 2013). Although these studies examined the effects of the nutrition information format on consumers' decisions, they focused mainly on reactions to products and were more empirically than theoretically based.

We investigate whether presenting information such as symbols in addition to numeric values can have a positive impact on the restaurant business by applying framing theory. Framing is defined as "the process by which people develop a particular conceptualization of an issue or reorient their thinking about an issue" (Chong and Druckman, 2007). Framing effect refers to the Download English Version:

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