



The role of perceived corporate social responsibility on providing healthful foods and nutrition information with health-consciousness as a moderator



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ABSTRACT

As customers become more health conscious and governments create legislation requiring restaurants to provide nutrition information, the restaurant industry can no longer ignore demands for healthful eating environments. This study considers providing healthful food options and nutrition information as strategies for creating healthful eating environments at restaurants, and aims to develop a theoretical explanation of consumer reactions to such actions that incorporates perceived corporate social responsibility. Data were collected using a between-subjects experimental design with scenarios. The results show that customers perceive restaurants to be socially responsible when they are provided with healthful foods and nutrition information; highly health-conscious customers react more strongly to provision of healthful foods than their counterparts. Consequently, customers have favorable attitude toward and high willingness to visit restaurants providing healthful foods and nutrition information. Restaurateurs should consider taking such initiatives to entice more customers and develop a socially responsible image.

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1. Introduction

As obesity overtakes smoking as the biggest health concern in the United States (Jia and Lubetkin, 2010), various interventions have been implemented at the individual, community, and national levels. As a part of the physical environmental context related to eating behaviors, restaurants play an important role in obesity (Story et al., 2008). Available foods at restaurants may affect the quality of consumption in negative ways, for example, increasing calorie consumption. Due to growing consumer concerns about obesity, demands for healthful menu items at restaurants have been increasing. At the same time, more customers now have high intentions to use nutrition information when selecting foods at restaurants (Bassett et al., 2008; Roseman et al., 2013; Technomic, 2013).

Providing nutrition information has become an important issue in the restaurant industry. The Patient Protection and Affordable Care Act requires restaurants with more than 20 units to provide nutrition information (Democratic Policy & Communication Center, 2010). Accordingly, the restaurant industry has called for menu changes in an effort to follow the law and to meet increasing

demands for healthful eating environments at restaurants. The top 10 menu trends reported by National Restaurant Association [NRA] (2012) are all related to healthful menu items, which include locally-grown produce, healthful kids' meals, and whole grain items. Other top ten food trends (Sloan, 2013) and NRA stress the importance of calorie/menu labeling as a form of transparency.

Previous studies (Burton et al., 2006; Kozup et al., 2003) investigating the effects of nutrition information and healthful items have focused mainly on the foods per se, for example, if customers have favorable attitudes toward or want to select healthful food items with lower calories than assumed. Relatively few studies have concentrated on the effects of providing nutrition information and healthful options on customers' general perceptions of restaurants, such as restaurant selection intention or restaurant image. More specifically, little has been done to examine the underlying consequences of consumer perceptions after exposure to nutrition information and healthful options at restaurants.

Previous studies applied the concept of corporate social responsibility (CSR) to both nutrition information and healthful food contexts (Jones et al., 2006; Schroder and McEachern, 2005). Jones et al. (2006) found that food retailers provided healthful foods and nutrition information as healthy eating CSR initiatives. Schroder and McEachern (2005) examined young consumers' fast-food purchase intention under the consideration of nutritional value as CSR actions. However, these studies did not empirically test suggested

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relationships between healthy eating initiatives and perceived CSR. Furthermore, restaurateurs are interested in the consequences of customers' perception of corporate social responsibility toward their restaurants.

Restaurant managers have been much more concerned about consumers selecting their restaurants than consumers selecting healthful foods once they are there, because restaurant selection precedes food selection. It was found that the primary factor motivating restaurant executives to provide healthful options is a potential increase in sales and profits (Glanz et al., 2007). An examination of customers' willingness to visit restaurants that provide nutrition information and healthful options will not only enrich the restaurant literature, but also reveal practical implications for restaurant managers.

General eating behaviors are affected by individual's socioeconomic and demographic factors such as age, gender, and health related factors including past healthy eating behavior or nutrition knowledge (Bower et al., 2003; Deshmukh-Taskar et al., 2007; Drichoutis et al., 2006). This study used health-consciousness as a proxy of all potential confounding factors that influence eating-related behaviors, indicated by perceptions of restaurants and willingness to visit specific restaurants in this study. For example, individuals who are female with more nutrition knowledge will be more health conscious. It has been found that more health-conscious consumers try harder to maintain healthy eating habits (Bower et al., 2003). In other words, reactions to healthy initiatives vary based on a customer's degree of health-consciousness.

This study aims to theoretically explain consumer responses toward restaurants that provide nutrition information and healthful menus by incorporating perceived corporate social responsibility as a mediator, health-consciousness as a moderator, and attitude toward restaurants as a part of a consumer's willingness to select such restaurants. The objectives of this study are: (a) to examine if providing healthful foods and nutrition information increases perceptions of CSR, and restaurant selection, and (b) to investigate if serving healthful foods and providing nutrition information impacts perceptions of CSR differently based on a customer's level of health-consciousness.

2. Literature review

2.1. Increasing demands for nutrition information and healthful foods

As consumers become more aware of the benefits of healthy eating, they are increasingly aware of healthy foods and pay more attention to nutrition (Thomas and Mills, 2006). According to Technomic's consumer trend report (2013), half of consumers polled would like restaurants to provide healthful items and would select such items if available at restaurants. Also, consumers want to see nutritional information at restaurants in order to make more healthful decisions. Roseman et al. (2013) supports this trend through a result that more than two third of participants wanted to make healthier choice with nutrition information on restaurant menus and actually selected lower caloric items on labeled restaurant menus.

Whether or not to provide nutrition information on restaurant menus has been a subject of much debate for several years. In 2010, the Affordable Care Act included a regulation requiring nutrition information to be provided at chain restaurants (Democratic Policy & Communication Center, 2010). Since providing nutrition information has been legislated in several states, cities and counties who have adopted the law, more studies have been conducted to determine if providing nutritional information is associated with positive effects on customers' food consumption. A review study

of restaurant-based interventions (Glanz and Hoelscher, 2004) showed that point-of-purchase (POP) information at restaurants has significant impact on more healthful selections at restaurants. Likewise, Burton et al. (2006) reported that consumers positively changed their intentions and choices when exposed to calorie and nutrient information.

Several studies have investigated the availability of healthful foods at restaurants (Saelens et al., 2007; Wu and Sturm, 2013) or assessed general consumer beliefs about healthy diets, though not specifically in the restaurant context (Pawlak and Colby, 2009). Despite increasing consumer interest in healthful foods, it is difficult to find studies supporting positive consumer perceptions or purchase intentions toward such foods. Only a few studies (Burton et al., 2006; Kozup et al., 2003) have shown that customer purchase intentions and choices decreased for less healthful items that contained more calories and fat than expected.

Although providing healthful options and nutrition information are recognized as important factors in improving the quality of food selection and sales at restaurants, few studies have investigated consumer perceptions after being exposed to both strategies, and the effects on their behavioral intentions toward such restaurants, not toward foods per se. Previous studies have focused on the nutrition information and healthful foods from an empirical perspective and none have developed a theoretical model that adequately describes the impacts of providing nutrition information and healthful foods on consumers' perceptions and behavioral intentions.

2.2. Perceived corporate social responsibility (CSR)

Corporate social responsibility has become a popular research area along with general trends of industries attention to CSR issues. For example, studies (Becker-Olson et al., 2006; Sen and Bhattacharya, 2001) in marketing and general business investigated when, how, and what specific CSR initiatives work. In the hospitality industry, effects or contributions of CSR actions have been studied (Kang et al., 2010; Lee and Heo, 2009; McGehee et al., 2009; Nicolau, 2008).

In line with this trend, the restaurant industry also can no longer disregard demands for healthy eating environments as more and more customers become interested in adopting a lifestyle that includes healthy eating, and public criticism increases over the poor quality of food-away-from-home (FAFH). Schroder and McEachern (2005) showed that most customers who patronize McDonald's and KFC expected fast-food companies to promote healthy eating initiatives as a part of CSR actions. Customer health and safety comprises one important segment of CSR in the food supply chain developed by Maloni and Brown (2006). They stressed this segment by considering customers' increasing awareness of healthy lifestyles and increasing concerns about obesity. In light of increasing concerns about obesity in the United States, CSR initiatives aimed at obesity prevention might be frequently requested in the foodservice industry.

The foodservice industry has spawned healthy eating initiatives in various formats under the CSR umbrella to satisfy customer demands for healthful eating environments. Food retailers have used the provision of healthful items and nutrition information as a marketing strategy related to CSR initiatives (Jones et al., 2006). Providing nutrition information is one way restaurants accept the role of social responsibility (Thomas and Mills, 2006). Fast food and coffee restaurants such as McDonald's and Starbucks, have responded to consumer demand for more healthful products. However, to date, there have only been anecdotal instances of customer reactions to CSR actions in the foodservice industry and they have rarely been empirically measured. Although previous studies (Hu et al., 2010; Jang et al., 2011) investigated consumers' perceptions

of “green” restaurants including “green” foods, few have focused on the provision of nutrition information and healthful foods as a CSR concept. It is important to investigate nutrition information and healthful menu items in relation to consumers’ perceptions of a restaurant’s commitment to CSR. Thus, this study examines whether or not such initiatives cause customers to perceive them as CSR actions.

CSR initiatives such as providing healthy alternatives in the restaurant industry support not only customers’ healthy lifestyles, but also the restaurant industry’s healthy profits. Creating a socially responsible image is one way restaurants can profit by providing healthy alternatives. Economos et al. (2009) showed that restaurants want to be perceived as socially responsible when providing healthful menus and highlighting healthier options on a menu board. Royne and Levy (2008) suggested that companies provide healthy products as an effective marketing strategy so that customers have positive reactions through a socially responsible image.

Many organizations have taken CSR actions with the assumption that consumers will reward companies for their support of social programs. The positive relationship between CSR initiatives and customers’ attitudes toward companies was found by researchers (Brown and Dacin, 1997; Ellen et al., 2000). Customers tended to have positive evaluations for products and companies when taking CSR actions (Brown and Dacin, 1997) and evaluated overall CSR actions positively (Ellen et al., 2000). Mohr and Webb (2005) suggested that American consumers value CSR and may use it as a purchasing criterion. In their experimental design, compared to respondents in the low CSR level scenario, respondents in the high CSR scenario showed significantly higher intention to buy products made by the company.

In the case of the hospitality industry, Nicolau (2008) investigated whether social initiatives result in positive financial outcomes in tourism settings and found that tourists tend to be involved in consumption of socially oriented activities carried out by tourism companies. Lee and Heo (2009) examined whether a restaurant’s CSR activities influence customer satisfaction and consequently whether a changed satisfaction level affects restaurant performance. Even though they did not find a mediating role for consumer satisfaction, the findings showed that socially responsible activities have a positive and significant impact on consumer satisfaction for restaurants. It also was found that developing a healthy brand image based on healthy products may elicit positive public relations and word-of-mouth communication channels (Chrysochou, 2010). Based on the above literature, we assumed that increased perception of corporation social responsibility toward restaurants would increase customers’ favorable attitudes toward restaurants.

H1. Providing nutrition information positively influences consumers’ perceptions of corporate social responsibility.

H2. Providing healthful menu items positively influences consumers’ perceptions of corporate social responsibility.

H3. Increased consumers’ perceptions of corporate social responsibility positively influence their attitudes toward the restaurant.

2.3. Relationship between attitude and willingness to select restaurants

The relationship between attitude and intention has been widely applied in social science studies. Ajzen (1991) showed that attitude is one antecedent of behavioral intention in the theory of planned behavior. This assumption has been successfully applied to food choice behavior (Hewitt and Stephens, 2007; Povey et al., 2001) such as fruit and vegetable consumption or a low-fat diet.

Thus, this study hypothesizes that a consumer’s attitude toward a restaurant affects his or her willingness to visit the restaurant.

Most previous studies (Cranage et al., 2004, 2006) investigating the effect of providing nutrition information were conducted with actual customers in real foodservice settings by providing nutrition information physically at the point-of-purchase and measuring repurchase intentions. However, in this study we focus on customer willingness to select a restaurant initially, not intentions to revisit the restaurant. We are interested in customers’ first impressions of theoretically suggested initiatives at restaurants (i.e., providing nutrition information and healthful foods), and intention to purchase (rather than repurchase) is the right construct for measuring consumer reactions to new items. Thus, we are able to investigate whether such initiatives attract new customers.

H4. A consumer’s attitude toward a restaurant positively influences willingness to select the restaurant.

2.4. The moderating role of health-consciousness

Health-consciousness is a measure of an individual’s readiness to take health actions. Becker et al. (1977) defined readiness to undertake health actions as having three components: health motivations, perceived threats posed by illnesses or conditions, and perceived probability that compliant behavior will reduce the threat. Health-consciousness indicates whether individuals are aware of the influence of lifestyle on health (Wardle and Steptoe, 2003). Even though there is no clear definition of health-consciousness, it is concluded that health-conscious individuals are concerned for their health, and thus are more likely to be interested in improving and/or maintaining their health and to engage in health actions.

Health-consciousness has been investigated as a major determinant of healthy behaviors. Health-consciousness was independently associated with lack of exercise or low fruit and vegetable intake (Wardle and Steptoe, 2003). Less health-conscious people exhibited those behaviors at a higher rate than highly health-conscious people. Previous studies also suggested an effect of health-consciousness on attitude toward healthcare activities; for example, individuals with high levels of health-consciousness tend to have favorable attitudes toward obtaining regular medical check-ups, and maintaining a healthy diet to prevent heart disease and cancer (Gould, 1988).

In terms of food consumption, some studies (Chen, 2009; Michaelidou and Hassan, 2008) reported that highly health-conscious consumers have more favorable attitudes toward organic foods, and think that organic products are healthier, have superior quality, and are tastier. Individuals with high levels of health concern and more nutrition knowledge had greater intentions to buy and pay more for foods with health benefits (Bower et al., 2003) and to use nutrition labels when buying food products (Drichoutis et al., 2006). Therefore, it is assumed that highly health-conscious consumers will have stronger reactions to restaurants providing healthful food options and nutrition information than less health-conscious consumers. This study investigates the moderating role of health-consciousness on the relationship between providing nutrition information and healthful food options and perceived corporate social responsibility. The developed hypotheses are illustrated in Fig. 1.

H5. When exposed to nutrition information, highly health-conscious people will have stronger perceptions of corporate social responsibility compared to less health-conscious people.

H6. When exposed to healthful menu items, highly health-conscious people will have stronger perceptions of corporate social responsibility compared to less health-conscious people.

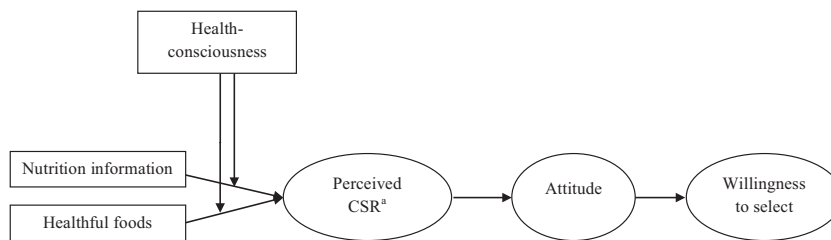


Fig. 1. Conceptual model. ^aCorporate Social Responsibility.

3. Methodology

3.1. Measurement

We measured perceived CSR using four items adapted from Brown and Dacin (1997). Consumer attitude was measured using three items based on Ajzen's (1991) terms. Willingness to select the restaurant was measured using four items adapted from a study by Fuchs et al. (2010). We used three items developed by Sparks and Guthrie (1998) to measure health-consciousness. All measurement items were modified from reference scales to fit the restaurant setting in this study. All items were measured on a seven-point Likert type scale ranging from 'strongly disagree (1)' to 'strongly agree (7).'

A pilot study with 25 participants suggested that the wording of several items was ambiguous. After being modified, the final questionnaire was distributed in the main study [Appendix 1].

3.2. Participants and design

A between-subjects experimental design was used to investigate the role of nutrition information and healthful foods using scenarios, with two levels of nutrition information (presentation vs. no presentation of nutrition information) and healthful foods (presentation vs. no presentation of healthful food options). Participants were asked to read a short scenario with an example menu [Appendix 2] and to answer the questions measuring perceived corporate social responsibility, attitude, willingness to select the restaurants, and health-consciousness.

Based on concerns about obesity, this study defined healthful foods as those with low calorie and low fat content based on the criteria used in the nutrition environment measures study (Saelens et al., 2007) and government recommendations for a healthful diet (Marshall, 2011). The current study provided examples of healthful foods that contain less than 800 calories, with less than 30% of those calories coming from fat. Customers are most interested in calories, total fat grams, and calories from fat on restaurant menus (Cranage et al., 2004). Hence, the scenario with a nutrition information stimulus provided respondents with those three components of nutrition information in the context of the study.

The survey was conducted with college students and faculty/staff at a large Northeastern university. A total of 329 questionnaires were completed. After excluding incomplete questionnaires, answers from 277 respondents were analyzed. Before combining the two separate data sets of students ($n = 162$) and faculty/staff ($n = 115$), we compared perceived CSR, attitude, and willingness to select the restaurants between the two groups. Results showed no statistical differences for those constructs between the two groups at the 5% significance level. Thus, further analyses were conducted for the combined data set.

Participants were divided into groups based on low ($n = 160$) and high ($n = 117$) health-consciousness using the median split method for the health-consciousness score to examine the moderating role of health-consciousness. Almost 15% of respondents ($n = 41$) were

in the median group, and a potential bias can be generated if the median group is combined with one of the other two groups when the median group has its own characteristics for the main constructs. Thus, we conducted additional analyses to clarify whether including the median group with either the low or high health-consciousness groups affects the main results for the suggested relationships; results are presented in Section 4.6.

3.3. Data analysis

To investigate hypothesized role of perceived CSR and attitude, we employed a two-stage approach to structural equation modeling (Anderson and Gerbing, 1988). First, we used confirmatory factor analysis to estimate the measurement model. Then, we created a structural model to estimate the suggested causal relationships. To test the moderating role of health-consciousness, we used multigroup analysis to compare the two models (i.e., constrained and unconstrained). Using ANCOVA, we assessed whether demographic variables (age, gender, and education level) influenced suggested relationships and interaction effects between the two independent variables.

4. Results

4.1. Demographic information

Most respondents were female (64%), 18–24 years old (61%), and had obtained or were working toward a bachelor's degree (73%).

4.2. Preliminary analysis

We performed manipulation checks for the stimulus, which either included or excluded healthful food options and nutrition information. Participants were asked on a 7-point scale if they thought that (a) the restaurant in the scenario provided healthful menu items in addition to traditional foods, and (b) the restaurant in the scenario provided nutrition information such as calories or total fat on menus. The results of an independent t -test found that when the healthful food options stimulus was presented, the participants thought that the restaurant provided healthful foods significantly more than participants who were given no healthful menu items, $t(275) = -24.18$; $p < 0.001$ (stimulus vs. no stimulus groups mean \pm SD = 5.72 ± 0.9 , 2.6 ± 1.1), showing that the manipulation for healthful food options worked well.

The manipulation check for nutrition information demonstrated that participants who were provided with nutrition information on menus thought that the restaurant provided nutrition information significantly more than those in the scenario with no nutrition information, $t(275) = -29.14$; $p < 0.001$ (stimulus vs. no stimulus groups mean \pm SD = 6.27 ± 0.9 , 2.28 ± 1.2). This shows that the nutrition information manipulation was successful.

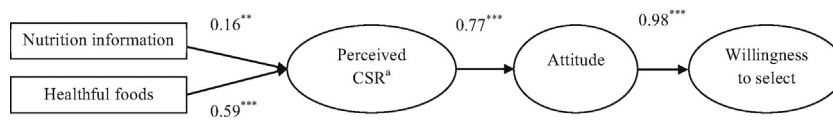


Fig. 2. Results of a structural equation model. ^aCorporate Social Responsibility, ** $p < 0.01$, *** $p < 0.001$, $\chi^2 = 180.236$, $p < 0.001$; normed $\chi^2(\chi^2/df) = 2.91$; Normed fit index (NFI)=0.94; Tucker Lewis index (TLI)=0.95; Standardized root mean square residual (SRMR)=0.05; Comparative fit index (CFI)=0.96; and Root mean square error of approximation (RMSEA)=0.08.

Table 1
Confirmatory factor analysis properties.

Construct	Standardized factor loading	Construct reliability	AVE ^a
Perceived CSR		0.87	0.69
CSR1	0.88		
CSR2	0.85		
CSR3	0.88		
CSR4	0.71		
Attitude		0.80	0.76
Att1	0.78		
Att2	0.90		
Att3	0.93		
Willingness to select the restaurants		0.83	0.73
Wil1	0.80		
Wil2	0.89		
Wil3	0.93		
Wil4	0.79		

^a Average variance extracted. Fit indices: $\chi^2 = 124.522$, $p < 0.001$; normed $\chi^2(\chi^2/df) = 3.04$; Normed fit index (NFI)=0.96; Tucker Lewis Index (TLI)=0.96; Standardized root mean square residual (SRMR)=0.03; Comparative fit index (CFI)=0.97; and Root mean square error of approximation (RMSEA)=0.08.

4.3. Measurement model

The CFA model (Table 1) fit the data well with model statistics of normed $\chi^2(\chi^2/df) = 3.04$; normed fit index (NFI)=0.96; Tucker Lewis Index (TLI)=0.96; standardized root mean square residual (SRMR)=0.03; comparative fit index (CFI)=0.97; and root mean square error of approximation (RMSEA)=0.08. All measurement items were significant at the $p = 0.001$ level. The level for internal consistency was acceptable with Cronbach’s alpha estimates ranging from 0.90 to 0.92.

We assessed convergent validity using factor loadings, construct reliability, and AVEs. All factor loadings exceeded 0.5 with significant alpha levels at 0.001 (Anderson and Gerbing, 1988) and all construct reliability is higher than 0.7 (Hair et al., 2010). All AVE values exceeded the recommended 0.5 threshold (Fornell and Larcker, 1981), showing that all indicators effectively measured their corresponding constructs and supporting evidence of convergent validity.

Discriminant validity was confirmed for most variables, except for between attitude and willingness to select the restaurants. The variance extracted estimates, ranging from 0.69 to 0.76 exceeded all squared correlations for each pair of constructs, ranging from 0.5 to 0.55. There was a high correlation ($r = 0.88$) between attitude and willingness; the squared correlation between these two variables ($r^2 = 0.77$) was slightly greater than both AVEs for attitude and willingness. Thus, to verify if indicators for each construct

measured different constructs, we performed SEM first with a combined construct of attitude and willingness and then with the two constructs separately (Hair et al., 2010). The two models were compared based on the difference between chi-square and degrees of freedom. The comparison results showed significant differences between the two models ($\Delta\chi^2 = 9.409$, $\Delta df = 1$, $p < 0.01$), indicating that the two constructs, attitude and willingness to select the restaurant, are distinct. Therefore, discriminant validity was supported.

4.4. Testing the hypothesized structural model

Fig. 2 describes the result of the structural equation model, which was created to validate the proposed model and to test our hypotheses. The various parameters of the overall model fit demonstrated that the model fit the data reasonably, even though the χ^2 statistics suggest that the data did not fit the model ($\chi^2 = 180.236$; $df = 62$; $p < 0.001$). Due to the sensitivity of the χ^2 statistic (Hair et al., 2010), the overall evaluation of fit was assessed based on multiple indicators; normed $\chi^2(\chi^2/df) = 2.91$; normed fit index (NFI)=0.94; Tucker Lewis Index (TLI)=0.95; standardized root mean square residual (SRMR)=0.05; comparative fit index (CFI)=0.96; and root mean square error of approximation (RMSEA)=0.08). With acceptable model fit, we conducted further analyses to test the hypotheses.

All proposed relationships among constructs are supported at the alpha level of 0.01. Providing nutrition information had a significant positive influence on perceived CSR ($\beta = 0.16$; $t = 2.99$; $p = 0.003$, supporting Hypothesis 1). Provision of healthful foods significantly influenced perceived CSR in a positive way ($\beta = 0.59$; $t = 9.36$; $p < 0.001$, supporting Hypothesis 2). Hypothesis 3 stated that perceived CSR was associated with attitude. Perceptions of CSR had a significant positive effect on attitude ($\beta = 0.77$; $t = 10.21$; $p < 0.001$, supporting Hypothesis 3). The relationship between attitude and willingness to select the restaurant was significant, as well ($\beta = 0.98$; $t = 14.15$; $p < 0.001$, supporting Hypothesis 4).

4.5. Moderating effects

To verify the moderating role of health-consciousness in the relationships between healthy eating initiatives and perceived CSR, we conducted multigroup analyses to compare the two models (i.e., constrained vs. unconstrained). The results of the moderating effect of health-consciousness are shown in Tables 2 and 3.

In Table 2, the results of multigroup analyses show a significant difference between the two health-conscious groups for outcome related to the provision of healthful food options (supporting Hypothesis 6). However, no difference was observed between the

Table 2
Moderating effects of low versus high health-conscious groups.

Hypothesized path	Unconstrained model Chi-square (df= 124)	Constrained model Chi-square (df= 125)	Chi-square difference ($\Delta df = 1$)
Nutrition information → Perceived CSR	268.902	268.903	0.001
Healthful foods → Perceived CSR	268.902	277.520	8.618**

** $p < 0.01$.

Table 3
Parameter estimates of low and high health-conscious groups.

Hypothesized path	Low health-conscious group Standardized path coefficients	High health-conscious group Standardized path coefficients
Nutrition information → Perceived CSR	0.18 [*]	0.16 [*]
Healthful foods → Perceived CSR	0.43 ^{***}	0.75 ^{***}

^{*} $p < 0.05$.

^{***} $p < 0.001$.

two health-conscious groups for outcome related to the provision of nutrition information (rejecting Hypothesis 5).

Table 3 describes regression coefficients by each group and each path in detail. Both groups showed significant relationships between nutrition information and perceived CSR ($\beta_{\text{low}} = 0.18$; $p = 0.015$, $\beta_{\text{high}} = 0.16$; $p = 0.018$). The difference in χ^2 between the constrained model and the unconstrained model was not significant for this path (Table 2), showing that health-consciousness does not moderate respondents' reactions to nutrition information. The relationship between healthful food options and perceived CSR was significantly positive for both the low and high health-conscious groups ($\beta_{\text{low}} = 0.43$; $p < 0.001$, $\beta_{\text{high}} = 0.75$; $p < 0.001$). The χ^2 difference between the two models for this path was significant, indicating that the positive effect of healthful food options on perceptions of CSR was stronger for the high health-conscious group than for the low health-conscious group. Thus, the results showed that people who are more health-conscious are more likely to be influenced by healthful food options than less health-conscious people in the process of developing perception of CSR.

4.6. Additional analyses

We used the median split method to create the low and high health-conscious groups. To ensure the validity of using a median split, we conducted the above analyses twice more: once with the median group ($n = 41$) included in the high health-conscious group (low group = 119 vs. high group = 158) and again with the median group removed (low group = 119 vs. high group = 117). The two new data sets showed the same results as the original data using a median split, although with slightly different significance levels. For example, when the median group was included in the high health-conscious group, the relationship between providing nutrition information and perceived CSR was significant at the 0.01 level, whereas it was significant at the 0.05 level in the original data. Hence, using a median split method in this study is valid, even though the sample size of the median group is high.

Previous studies (Bower et al., 2003; Drichoutis et al., 2006) have shown that eating behaviors are affected by demographic factors. For example, people who are female, older, and have achieved a higher education level are more likely to have healthier eating behaviors. To investigate possible influences of such factors on the four proposed outcomes of providing nutrition information and healthful food options, we compared the results of SEM with the results of ANCOVA, in which age, gender, and education level are controlled. No differences were found between the two analyses. Thus, this study can be generalized regardless of age, gender, and education level.

There may be an argument about a possible interaction effect between providing nutrition information and healthful food options and attitude or behavioral intention. For example, people may have more favorable attitudes when restaurants provide nutrition information on healthful foods than when they provide nutrition information on traditional foods. Even though such an interaction effect has not been reported yet, the ANCOVA results of this study reveal that no interaction exists between providing nutrition information and healthful food options and attitude

and willingness to select restaurants. Hence, the conceptual map is correct without the interaction term between two independent variables.

5. Discussion and conclusion

Foodservice operators mentioned that their customers are more knowledgeable and sophisticated about food than ever, which encourages restaurateurs to incorporate new items (NRA, 2012). The restaurant industry is attempting to meet consumer demands for healthy eating environments and to follow menu labeling legislation. However, very few studies have investigated whether such activities influence customers' perceptions of restaurants and intentions to visit. Scholars must keep up with this trend and publish relevant research. This study developed a theoretical explanation of customer's perceptions of restaurants with healthy eating initiatives, which include providing nutrition information on menus and healthful food options in addition to traditional foods.

One important finding of our research is the empirical validation of the provision of healthful items and nutrition information as CSR actions. The results of this study show that providing healthful food options and nutrition information has a positive effect on perceived corporate social responsibility. In other words, when restaurants present nutrition information and serve healthful food options, customers perceive that the restaurant is socially responsible. Based on the perceptions of CSR toward restaurants, consequently, customers develop favorable attitude toward and want to visit the socially responsible restaurants. This finding supports the assertions that considering customers' health and safety is one important dimension of CSR (Maloni and Brown, 2006) and that implementing such initiatives can be an effective marketing strategy by supporting a socially responsible image (Royne and Levy, 2008). Providing healthful foods and nutrition information is suggested to be considered an effective marketing strategy (Chrysochou, 2010) and a component of corporate social responsibility (Thomas and Mills, 2006). Previously, it was shown that the CSR actions of tourism companies (Nicolau, 2008) and the environmental and philanthropic actions of manufacturing companies (Mohr and Webb, 2005) positively changed customers' evaluations of products and companies. Like CSR actions in other industries, providing healthful foods and nutrition information were found to have a positive impact on customers' perceptions and behavioral intentions being perceived as CSR actions.

In addition, this study found that highly health-conscious people react more strongly to the provision of healthful food options than less health-conscious people. When healthful food options are provided, highly health-conscious people are more likely to think that the restaurant is socially responsible than low health-conscious people. This result supports the research finding that higher SES respondents, who were associated with more health-consciousness, were more ready to undertake health actions, for example, exercise and eat fruit and vegetables daily (Wardle and Steptoe, 2003). However, for the provision of nutrition information, highly health-conscious people react similarly to less health-conscious people. In other words, when exposed to nutrition information, people perceive

the restaurants to be socially responsible, regardless of level of health-consciousness. For this result, we can assume that highly health-conscious people are more sensitive to being able to obtain healthful foods at restaurants than less health-conscious people, regardless of whether or not nutrition information is provided. Interestingly, even people who are less health-conscious reacted positively and significantly to nutrition information for perceived CSR. Thus, restaurants need to consider providing nutrition information and healthful food options as an effective marketing tool in order to develop a socially responsible image.

This study has significant implications both theoretically and practically. Theoretically, this study confirmed the existence of perceived corporate social responsibility in the restaurant setting and augmented the body of literature about corporate social responsibility, especially as it pertains to restaurants. By doing so, this study attempted to develop a theoretical foundation for CSR within the restaurants industry. Restaurants' CSR actions have been studied very little compared to other industries. The public is highly aware of issues affecting the restaurant industry in the United States. It is because the restaurant industry not only is closely related to life quality but also plays a large role in the national economy and employment (NRA, 2012). Thus, research in the area of CSR, particularly in the restaurant industry is important.

In practice, providing healthful foods and nutrition information can improve a restaurant's image. Often, managers must choose between profitability and social responsibility when making decisions. However, results of this study indicate that deciding to provide nutrition information and healthful food items yields benefits from both perspectives. Changing menu items to include healthful options is one concern of restaurant executives when implementing mandatory menu labeling regulation. Bruemmer et al. (2012) showed that restaurants make efforts to reformulate menu items by decreasing portion size, substituting ingredients, or both after adopting the regulation. When restaurants implement healthful eating initiatives, they want to be perceived as socially responsible (Economos et al., 2009). Based on results of this study, restaurateurs may make an easy decision to increase more healthful items on their menu while simultaneously increasing the image of their business.

6. Limitations and future research

This study is not free of limitations. First, this study used a scenario experimental study and was not conducted in real life situations, which elicits a reality issue. In particular, the scenario provided too much information while directly suggesting manipulations. In practice, restaurants do not provide such specific statements about providing healthful foods and/or nutrition information. The scenario may not have been realistic. Therefore, conducting a field experimental study with actual customers and real menu formats without leading information is recommended.

Future study with a bigger sample size is desirable for SEM analysis with several constructs. Even though this study meets the minimum level of required sample size, analysis with a bigger sample size may have a stronger overall model fit within a safer level.

Current scenarios do not specifically mention the type of restaurants, even though the menu examples reflect menu items at fine dining restaurants, for example, Herb Grilled Salmon, not served at fast food restaurants. Customers possibly have different perceptions according to the types of restaurants. For example, participants who consider the setting of scenarios in fast food chains may not pay attention to nutrition information because nutritional quality is not important when they visit fast food chains. Thus, future studies should identify the type of restaurant.

Consideration of consumer empowerment and self-determination by giving consumers more informed choices for healthful menu items would be one significant factor resulting from such healthy eating initiatives. Previous studies (Cranage et al., 2004; Cranage and Sujun, 2004) show that giving information, including nutrition information, increased perceptions of food quality, more satisfied customers, lessened the negative effects of service failure, and increased customer loyalty and purchase intentions. Thus, future studies may incorporate the concept of consumer empowerment as one of consequences of provision of healthy eating initiatives and antecedents of positive outcomes.

Appendix 1.

Constructs	Items
Perceived CSR	I believe that this restaurant is considering customers' health. I believe that this restaurant acts responsibly against obesity issues. I believe that this restaurant has a sense of responsibility to customers' health. I believe that this restaurant is socially responsible.
Attitude	My attitude toward eating at this restaurant is favorable. My attitude toward overall menu items served in this restaurant is favorable. My attitude toward this restaurant is favorable.
Willingness to select the restaurants	I would prefer eating at this restaurant over other restaurants. I would eat at this restaurant. I would select this restaurant to have a meal. This restaurant would be my first choice for eating out.
Health-consciousness	I think of myself as someone who generally considers carefully about the health consequences of my food choices. I think of myself as the sort of person who is concerned about the long-term health effects of my food choices. I think of myself as a health-conscious person.

Appendix 2. Example scenario-Provision of healthful food options and nutrition information

You're thinking of eating out with your friends to have a meal. No special events are involved (e.g., birthday party) around today—just a time to get a good meal. Someone let you know that **Restaurant A** has a good reputation for overall food quality, service, and environment.

- This restaurant serves healthful foods such as Fresh Green Salad or Herb Grilled Salmon in addition to traditional American foods.
- This restaurant also provides detailed nutrition information including Calories, Total fat (g), and Calories from fat on each menu item like below.

Fresh Green Salad

Fresh vegetables, gourmet greens, onions, olives, walnuts, and tossed in balsamic vinaigrette.

Calorie: 350, Total fat: 4g, Calorie from fat: 36g (10% of total calorie)

Herb Grilled Salmon

Salmon filet brushed with Italian herbs and extra-virgin olive oil. Served with seasoned broccoli.

Calorie: 510, Total fat: 17g, Calorie from fat: 153 (30% of total calorie)

Bacon Cheeseburger on white bun

Quarter pound of ground sirloin loaded with several slices of American cheese and thick-cut fried bacon on a bakery fresh roll.

Calorie: 1410, Total fat: 89g, Calorie from fat: 801 (57% of total calorie)

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