Restaurant Healthy Food Quality, Perceived Value, and Revisit Intention: Testing a moderating role of green customers in South Korea

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Kim, Hyun Jeong; Lee, Choong-Ki; Kim, Myung-Ja; and Ryu, Kisang, "Restaurant Healthy Food Quality, Perceived Value, and Revisit Intention: Testing a moderating role of green customers in South Korea" (2011). International CHRIE Conference-Refereed Track. 5. https://scholarworks.umass.edu/refereed/ICHRIE_2011/Friday/5

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RESTAURANT HEALTHY FOOD QUALITY, PERCEIVED VALUE, AND REVISIT INTENTION: TESTING A MODERATING ROLE OF GREEN CUSTOMERS IN SOUTH KOREA

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ABSTRACT

This study is designed to explain how restaurant healthy food quality is related to repeat patronage intention. The results indicate that perceived value mediates the positive relationship between the restaurant healthy food and revisit intent. In other words, restaurant healthy food quality increases perceived value in the diner’s mind, which in turn results in a higher level of revisit intent. This study also finds green customers are more sensitive to restaurant healthy food quality attributes. For higher green customers, restaurant healthy food quality shows a stronger, positive relationship with repeat patronage intention than for low green customers. Managerial implications are discussed based on the findings for industry practitioners.

Key Words: healthy food, restaurants, green customer, perceived value, revisit intention

INTRODUCTION

Healthy food is gaining global attention as obesity and overweight is becoming prevalent in the large part of the world (Yach et al., 2006). In the U.S. where obesity is a serious public health problem (Baskin, et al., 2005), people’s interest in healthy food is higher than ever. According to the news release by the U.S. National Restaurant Association (2010), nearly three quarters of adult diners are trying to eat healthier now at restaurants than two years ago. Compared to other developed and developing countries, South Korea has a very low rate of obesity although the rate is increasing; it is attributable to South Koreans’ conservative attitude toward food which helps retain the traditional diet that is a low-fat and high-vegetable diet (Lee et al., 2002).

South Koreans’ interest in healthy eating has been going stronger since the 2000’s. The recent enthusiasm toward healthy eating was triggered by dietary information via mass media and the outbreak of mad cow disease and birth flu epidemics: In early 2002, a television documentary series unveiled the hidden dangers in everyday food people take and the airing of this popular TV program led to a temporary drop in meat sales and a higher demand for brown rice (Park, 2004); and the fear to take meat dishes caused by mad cow disease and bird flu popularized vegetarianism (Jang, 2004). To meet the needs of health-conscious South Korean diners, restaurants have made attempts to offer more vegetable- and fruit-oriented dishes. The Sheraton Walkerhill hotel restaurant added several
vegetarian options; Tony Roma’s in South Korea introduced a new fruit drink called “Carrotple” that is a combination of carrots, apples, and honey; and CJ foodville, South Korea's largest restaurant company, launched a new chain called Bibigo specializing in a traditional Korean dish of Bibimbat that is a mixed meal of rice, seasoned vegetables, and red pepper paste (Jang, 2004; Lee, 2010). Despite average diners’ increased interest in healthy eating, it is striking to find very few scholarly investigations regarding the impact of food healthiness on the restaurant business.

Healthy food may also go hand in hand with environmentalism. Research has shown that consumers prefer foods that are produced in an environmentally friendly manner with fewer chemical fertilizers, pesticides, and antibiotics (Wandel and Bugge, 1997). In the context of the lodging industry, researchers have examined the psychological process that leads to purchase intentions of green hotels (Lee et al., 2010; Han et al., 2010) and the moderating role of environmentalists in the process of the green hotel choice (Han et al., 2010). However, little research has been conducted to understand the differential effect of green consumers on the healthy eating behavior in the restaurant situation.

In summary, this study is designed to explain how restaurant healthy food quality attributes are related to revisit intention. The classical marketing concept of perceived value is presented as a mediator between restaurant healthy food quality and customers’ revisit. In addition, we examine whether green consumers moderate the proposed relationship in this study.

LITERATURE REVIEW

Restaurant Healthy food quality attributes

Several food instruments exist that may be helpful to evaluate food-related attributes. Van Trijp (1995) developed a measure called the VARSEEK-scale to evaluate consumers’ variety seeking tendency. Using respondents aged from 18 to 97, Steptoe et al.(1995) created the FQ (Food Choice Questionnaire) with nine factors: health, mood, convenience, sensory appeal, natural content, price, weight control, familiarity and ethical concern. Some researchers have focused on more specific consumer segments. Contento et al. (1988) selected eight food attributes as the crucial elements for adolescents: healthful, causes heart disease, has sugar, fattening, taste, easy to get, friends eat it, and parents serve it. Mahony and Hall (2007) identified eight influential factors for food choice among 18 to 30 year old females: physical appearance, time, marketing, price, quality and taste, culture, environment, and fillingness of food. Another notable scale is HTAS (Health and Taste Attitude Scales) developed by Roinien et al. (1999) with 20 health- and 18 taste-related items: The health items are grouped into general health interest, light product interest, and natural product interest; and taste-related items are separated into craving for sweet food, using food as a reward, and pleasure. All these scales are developed to understand consumer’s choice of foods in general occasions rather than the restaurant dining environment. Namkung and Jang (2008) uniquely developed a food quality measure that might fit better in the restaurant setting. Their scale consists of six attributes: presentation, variety, healthy options, taste, freshness, and temperature.

Despite multiple food attributes, Roininnen et al. (1999) argue that taste and healthfulness of food are the two most important predictors of food consumption behavior. Most published food-related scales combine both taste and healthfulness in one scale and the items do not necessarily reflect the restaurant situation. The present study emphasizes healthy food quality attributes in the restaurant environment. After a thorough review of several previous scales, focusing on the dimension of food healthiness, the following items appear most relevant to the assessment of healthy food quality attributes in the restaurant setting: light and healthy food options, use of fresh and natural or organic ingredients, and contribution to weight control.

In addition to food-related measures, we reviewed other articles to obtain additional, feasible healthy food quality attributes in the restaurant environment. Mahony and Hall (2007) contend that it is an effective strategy
promoting or providing information regarding the method of cookery that is used during food preparation in order to increase the perception of healthfulness on the restaurant menu. There has been also a growing concern about food portion sizes. Researchers claim that the increased portion size in restaurants has made a significant contribution to the U.S. obesity problem (Peregrin, 2001; Young and Nestle, 2002). Some have discussed the critical role of nutritional information in healthy diet. After the examination of a number of large quick-service restaurants in the U.S., Gregory et al. (2006) discovered that most quick-service restaurant companies provide nutritional information for their patrons and promote the nutritional value of their food to recover from the criticism about poor food quality of fast food. Thus, healthy cooking methods, availability of the small portion size, and information about nutritional value are also added into healthy food quality attributes of restaurant meals in the present research.

**Value and revisit intention**

Perceived value has been viewed as what consumers get for what they give, or the consumer’s overall evaluation of the utility of a product or service provision based on perceptions of what one receives for what one gives (Baker et al., 1994). Zeithaml (1988) identified four common uses of the term of value (low price, whatever I want in a product, the quality I get for the price I pay, and what I get for what I give) and further claimed that the four terms can be summed into a single definition: “perceived value is the consumers’ overall assessment of the utility of a product based on the perception of what is received and what is given” (p.14). Accordingly, in this study we define value as the customers’ overall assessment of dining experience based on the perceptions of what is received from the restaurant and what is given to the restaurant after dining decision. Oliver (1997) defines behavioral intentions as an affirmed likelihood to engage in a certain behavior. Following Oliver’s (1997) line of thought, we define revisit intention as a stated likelihood to return to the restaurant in the near future.

**Relationships among restaurant healthy food quality, value, and revisit intention**

Food quality is the single most important element that affects customer satisfaction and repeat patronage intention in a full-service restaurant (Sulek and Hensley, 2004). Among restaurant food quality attributes, the healthfulness dimension has become increasingly critical. After the discovery of the positive influence of food quality on diners’ behavioral intention, Namkung and Jang (2007) examined the differential effect of six food quality components (presentation, variety, healthy options, taste, freshness, and temperature) on behavioral intention. They found that healthy options were the third essential predictor of behavioral intention followed by taste and presentation.

In addition, the study by Kozup et al. (2003) sheds the insight into the role of healthy food quality attributes, particularly nutritional information. Using experimental designs, Kozup et al. (2003) tested the effect of nutritional information and health claims on the customers’ evaluations of restaurant menu items. The results demonstrated that when favorable nutritional information or health claims were presented, customers had more positive attitudes toward the product and higher purchase intention. Some interaction effects were found: When heath-related claims were the only source of information with no nutrition information, health claims had significant influence on attitudes and purchase intention; and when nutritional information was presented concurrently, health claims had a minimal impact on customers’ attitudes and purchase intention. Overall their findings suggest that consumers are wise enough to discern the truth of health claims and that nutritional knowledge essentially influences consumers’ purchase behavior.

Although not every healthy food quality attributes proposed in this study have been subject to the investigation pertaining to repurchase intention, the findings of Namkung and Jang (2007) and Kozup et al. (2003) lead us to be fairly supportive of the positive relationship between restaurant healthy food quality and diners’ revisit intent. The following summarizes the hypothesis regarding the relationship between restaurant healthy food quality and diners’ revisit intent to the restaurant: 

**H1: Restaurant healthy food quality is positively related to revisit intention**
Perceived value has been considered a vital construct in predicting consumer behavior (Anderson and Srinivasan, 2003; Hellier et al., 2003). Numerous studies have reported the significant influence of value on customer satisfaction and behavioral intention in a wide range of hospitality and service segments (Andreassen and Lindestad, 1998; Chen and Tsai, 2007; Colgate and Lang, 2001; Cronin et al., 2000; Fornell et al., 1996; Hallowell, 1996; Lam et al., 2004; McDougall and Levesque, 2000; Patterson and Spreng, 1997; Pura, 2005; Ryu et al., 2008). The findings by Cronin et al. (2000) are particularly worth attention. The authors formulated a comprehensive structural model to investigate the interrelated relationships among quality, satisfaction, value, and behavioral intention. They found the indirect effect of service quality on behavioral intention via perceived value (SQ → V → BI) and via satisfaction (SQ → SAT → BI). This result indicates value as a mediator between quality and behavioral intention and satisfaction as a mediator between quality and behavioral intention.

Service quality is composed of the core quality (what is delivered) and the relational quality (how it is delivered) with various levels of (in)tangible elements (McDougall and Levesque, 2000). Food quality represents the core quality of the restaurant with a sizable tangible characteristic. The attribute of food healthfulness is likely to improve the core quality (i.e., food quality) of the restaurant, thereby increasing diners’ value perception. The increased perceived value is then likely to lead to customer’s repatronage intention. This logic naturally proposes perceived value as a feasible mediator between restaurant healthy food quality and revisit intent. The following summarizes the proposed relationship concerning perceived value: H2: Value mediates the relationship between restaurant healthy food quality and revisit intention.

Green consumerism and the role of green customers in the proposed model

Green consumerism is defined as purchasing and consuming products that don’t damage environment or do less damage than other alternatives (Straughan and Roberts, 1999). In other words, green consumers’ purchase decision is affected by environmental concerns. Scholars have described the profile of green customers with socio-demographic variables. Traditional green customers are female, well-educated, affluent, and politically liberal (Hines et al. 1987). However, recent investigations indicate that the link between socio-demographic factors and green buying behavior is inconsistent (Straughan and Roberts, 1999; Peattie, 2001; Shrum et al., 1995) and that psychographic variables such as altruism or consumer beliefs about his or her action making a difference in environmental deterioration are better predictors of green consumerism (Mainieri et al., 1997; Straughan and Roberts, 1999; Gilg et al., 2005).

After factor analysis using the behavioral data of 1,600 households in the city of Deven, Gilg et al. (2005) found that the dimension of green purchase decision comprises not only green purchase activities but also actions relating to energy saving, waste management, and water conservation. Because the items in the factor were broader than green buying itself, Gilg et al. (2005) asserted that a more holistic approach is necessary to understand green consumers: For those who care about natural environment, green consumption is perhaps part of their way of living, and therefore green consumption may be more appropriate to be referred to as sustainable consumption or sustainable lifestyles. Gilg et al. (2005) further found that green consumers believe in their actions and they believe that environmental actions are their responsibility rather than government’s responsibility and they are more concerned about health and food safety issues. In the similar vein, Lea and Worsley (2005) report that those who score high on personal values of nature, environment, and equality are in favor of organic food, indicating that environmentalists are likely to be organic, natural food buyers.

The above characteristics of environmentalists suggest that in the restaurant setting, the association between healthy food quality and revisit intent may fluctuate as a function of each individual diner’s environmentalism. Those with higher levels of environmentalism, so to speak, high green customers, may be more sensitive to healthy food quality attributes such as natural ingredients. Because of their sensitivity to healthy meals, restaurant healthy food quality is likely to have a greater effect on their future dining patronage. Thus, the following
hypothesis is put forward regarding the moderating effect of green customers on the relationship between restaurant healthy food quality and revisit intent: $H3$: For high green customers, restaurant healthy food quality has a stronger, positive relationship with revisit intention than for low green customers.

Literature has shown green customers’ willingness to pay higher prices for greener products such as green hotel rooms (Lee et al., 2010) and organic produce and meat at the grocery store (Goldman and Clancy, 1991; Gilg et al., 2005; Hutchins and Greenhalgh, 1995). This result implies that restaurant meals with more healthy attributes are likely to be perceived as good value for money for green customers. In other words, the mechanism by which high green customers are likely to display a greater level of repeat patronage intention is that healthy meals provided at the restaurant are translated into a greater level of perceived value. Based on the above rationale, the following hypothesis is proposed: $H4$: Value mediates the moderated relationship between restaurant healthy food quality, green customers, and revisit intention.

**METHODS**

**Sample and procedure**

Data were collected from one local restaurant chain located in Seoul, Korea. The restaurant chain specializes in vegetable- and soybean-based dishes ranging from appetizers to main entrées. The menu also includes the limited number of meat items. The restaurants can be classified as mid- to high-priced, full-service restaurants where servers come to take orders and deliver the food to the table. The chain restaurants are franchised and thus we approached each owner-general manager prior to data collection for their approval. We selected five units because of their prime locations (e.g., busy business area, heavy residential area) and two restaurants agreed to participate in this study.

Respondents were the patrons of these two units. A pilot test was conducted with 35 patrons visiting these restaurants to ensure the clarity of the questions on the survey. One of the restaurant healthy food quality items was eliminated (see the measures section of 3.2. for details) and minor wording changes were made throughout the survey. For the data collection procedure, after customers were seated, they were asked if they would be interested in filling up a survey regarding their dining experience. A cover letter contained the purpose of the study, confidentiality of the information, and the contact information of the researchers of this project. In return, respondents received a small gift. Questionnaires were distributed for three days in both locations. Each restaurant collected about 200 questionnaires, producing a total of 411 usable questionnaires.

Males ($n=162$) represented 39.5% of the sample and females ($n=249$) 60.5%. More respondents were in their 40s, 50s, and early 60s ($n=264$, 64.2%) than in their 20s and 30s ($n=144$, 34.9%), revealing the popularity of these restaurants among mature diners. About one third ($n=110$, 27%) of the participants reported a monthly income less than 2,999,999 Korean won (equivalent to 2,900 U.S. dollars); another one third ($n=148$, 35%) indicated a monthly income between 3,000,000 and 4,999,999 Korean won (3,000 and 4,900 U.S. dollars); and the last one third ($n=149$, 36%) reported a monthly income greater than 5,000,000 Korean won (equivalent to 5,000 U.S. dollars). This result suggests that the majority of customers are pretty high income earners by Korean living standard.

**Measures**

The measure of restaurant healthy food quality was derived from an extensive review of the literature (see the literature section of 2.1.). Initially, a seven-item scale was created reflecting the characteristics of healthy food quality at the restaurant setting. The seven items are as follows: “This restaurant provides a nutritionally balanced diet”, “This restaurant provides light and healthy food options”, “This restaurant uses fresh and natural or organic ingredients”, “This restaurant uses a healthy cooking method”, “The food of this restaurant helps lose or control my weight”, “This restaurant makes smaller entrée portions available”, and “This restaurant provides nutritional
information”. After a pilot test, the statement regarding a smaller portion size was deleted because of few responses to the question. In fact, offering a smaller portion size is not a common practice in the dining establishment in South Korea and the participating restaurants did not offer such an option either. Thus, only six items remained in the final version of the survey. All restaurant healthy food quality items were evaluated on a five-point scale: 1= not at all; 5= very much. The reliability test was performed to assess the internal consistency of the six items. Cronbach’s alpha for the restaurant healthy food quality measure was .85.

Perceived value was assessed by three items (sample item: “The overall value of dining at this restaurant is high”) (Cronin et al., 2000; Ryu et al., 2008; Sweeney and Soutar, 2001). Revisit intention was also measured with three statements (sample item: “I intend to revisit this restaurant in near future”) (Han et al., 2009; Zeithaml et al., 1996). All items in the two measures (value, satisfaction, and revisit intention) were rated on a five-point scale: 1= strongly disagree; 5= strongly agree. Cronbach’s alpha values for value and revisit intention were .88 and .85 respectively.

As pointed out by Gilg et al. (2005), a more holistic approach is needed to understand green customers. Therefore, to determine whether respondents of this study are green customers or not, we developed a nine-item scale asking about not only green buying behavior (sample items: “I purchase energy efficient appliances or electronics” and “I purchase organic food and beverage at the grocery store”), but also daily activities that green customers are likely to engage in (sample items: “I recycle newspaper, cans, and/or bottles” and “When my budget allows, I donate money to the environmental organization”). These items are adopted from popular writings on environmentalism and green consumerism (e.g., Kaiser et al., 2007; Steel, 1996; Kaiser and Wilson, 2000; Straughan and Roberts, 1999; Gilg et al., 2005). Respondents indicated the frequency of their involvement in each green behavior using a five-point scale: 1= very seldom; 5= very often. The green customer measure displayed the Cronbach’s alpha value of .89.

Gender and age were selected as two control variables. The gender difference in eating behavior has been well documented: Women are usually more interested in healthy diet than men partly because of their greater concerns about weight control and physical appearance (Steptoe et al., 1995; Roininen et al., 1999; 2001). In addition, studies report that older people are more health conscious than younger people (Steptoe et al., 1995; Roininen et al., 1999; Kearney, 1998; Olsen, 2003).

RESULTS

Hypotheses testing

Prior to the hypotheses testing, we reviewed the correlation matrix among all study variables. Revisit intention was positively, significantly correlated with restaurant healthy food quality (r = .50, p < .01), value (r = .62, p < .01), and green customer (r = .15, p < .01). Gender (men coded 0; women coded 1) was significantly, negatively associated with repatronage intention, implying that male diners have higher ratings for revisit intention than female diners. To test Hypotheses 1 and 3, we conducted hierarchical regression analyses (see Table 1). Gender and age entered the regression model first as control variables (step 1); after controlling for the effect of demographic variables, two predictor variables (healthy food quality and green customer) entered the regression equation next (step 2); and the interaction of healthy food quality and green customer was introduced to the equation as a final variable (step 3). To avoid multicollinearity between predictors and their interaction term, we centered the predictor variables (healthy food quality and green customer) and multiplied them to form the interaction term (healthy food quality x green customer) (Aiken and West, 1991).

As predicted in Hypotheses 1, healthy food quality displayed a significant, positive relationship with diners’ revisit intention (β = .48, p < .01). Consistent with Hypotheses 3, the interaction of healthy food quality and green customer showed a significant, positive beta coefficient for repeat patronage intention (β = .09, p < .05). The
pattern of this interaction is graphically illustrated in Figure 1. The relationship between healthy food quality and revisit intention (see Figure 1) was stronger when diners’ green behavior was high than when diners’ green behavior was low. In summary, Hypotheses 1 and 3 are supported.

Table 1
Hierarchical regression analyses for the interactive effect

<table>
<thead>
<tr>
<th>Variables</th>
<th>β</th>
<th>β</th>
<th>β</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control variables</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>-0.13**</td>
<td>-0.10*</td>
<td>-0.09*</td>
</tr>
<tr>
<td>Age</td>
<td>0.02</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Predictor variables</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Healthy food quality</td>
<td>0.48**</td>
<td>0.48**</td>
<td></td>
</tr>
<tr>
<td>Green customer</td>
<td>0.05</td>
<td>0.06</td>
<td></td>
</tr>
<tr>
<td>Moderator</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Healthy food quality x green customer</td>
<td>0.09*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$F$</td>
<td>3.65*</td>
<td>35.65**</td>
<td>29.64**</td>
</tr>
<tr>
<td>Total $R^2$</td>
<td>0.02</td>
<td>0.26</td>
<td>0.27</td>
</tr>
<tr>
<td>Adjusted $R^2$</td>
<td>0.01</td>
<td>0.25</td>
<td>0.26</td>
</tr>
<tr>
<td>$\Delta R^2$</td>
<td>0.24</td>
<td>0.24</td>
<td>0.01</td>
</tr>
</tbody>
</table>

Notes: $n = 413$. $\beta_i$ = Standardized beta coefficient without healthy food quality, green customer, and a moderator variable; $\beta_j$ = Standardized beta coefficient without a moderator variable; $\beta_t$ = Final beta coefficient after all variables are entered. Gender: men=0, women=1. Age: $\leq 20 = 1$, $21-30 = 2$, $31-40 = 3$, $41-50 = 4$, $50-60 = 5$, $\geq 60 = 6$. *$p < 0.05$. **$p < 0.01$.

Figure 1
Healthy food quality- green customer interaction for revisit intention
Hypotheses 2 and 4 pertain to a mediating role of value. To test mediation, we adopted the widely used procedure recommended by Baron and Kenny (1986): in model 1, a significant relationship must exist between the predictor and the mediator; in model 2, the predictor must be significantly related to the outcome; and in model 3, both the predictor and the mediator enter the equation and the mediator must affect the outcome significantly and the effect of the predictor on the outcome must be less in model 3 than in model 2. For the present study, in model 1, the mediator variable (value) was regressed on the control variables (gender and age) and predictor variables (healthy food quality, green customer, and their interaction); then, in model 2, the outcome variable (revisit intention) was regressed on the controls (gender and age) and predictor variables (healthy food quality, green customer, and their interaction); and last, in model 3, the outcome variable (revisit) was regressed on the controls (gender and age), predictor variables (healthy food quality, green customer, and their interaction), and the mediator (value). If the predictor effect becomes insignificant after the entry of the mediator in model 3, it is considered a full mediation; and if the predictor effect is reduced but still significant, it is regarded as a partial mediation (Baron and Kenny, 1986; Frazier et al., 2004).

The results of mediation are shown in Table 2. In model 1, restaurant healthy food quality ($\beta = .61, p < .01$) and the interaction term (green customer x healthy food quality) ($\beta = .08, p < .05$) were significant in contributing to perceived value; in model 2, restaurant healthy food quality ($\beta = .48, p < .01$) and the interaction term ($\beta = .09, p < .05$) were significant determinants of repeat patronage intention; and in model 3, perceived value ($\beta = .49, p < .01$) was significantly related to revisit intent and the beta coefficients for both healthy food quality and the interaction term became diminished. A decreased yet significant beta for healthy food quality (from $\beta = .48, p < .01$ in model 2 to $\beta = .19, p < .01$ in model 3) indicates that value partially mediates the effect of restaurant healthy food quality on repeat patronage intention. The insignificant coefficient of the interaction term in model 3 compared to the significant beta in model 2 suggests that value fully mediates the interactive effect of healthy food quality and green customer on revisit intention. In summary, Hypotheses 2 is partially supported and Hypothesis 4 is fully supported.

## Table 2
Hierarchical regression analyses for mediation

<table>
<thead>
<tr>
<th>Variables</th>
<th>Model 1: value</th>
<th>Model 2: revisit</th>
<th>Model 3: revisit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control variables</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>$-0.11^{**}$</td>
<td>$-0.09^{*}$</td>
<td>$-0.04$</td>
</tr>
<tr>
<td>Age</td>
<td>$0.01$</td>
<td>$0.00$</td>
<td>$0.01$</td>
</tr>
<tr>
<td>Predictor variables and their interaction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Healthy food quality</td>
<td>$0.61^{**}$</td>
<td>$0.48^{**}$</td>
<td>$0.19^{**}$</td>
</tr>
<tr>
<td>Green customer</td>
<td>$0.02$</td>
<td>$0.06$</td>
<td>$0.07$</td>
</tr>
<tr>
<td>Healthy food quality x green customer</td>
<td>$0.08^{*}$</td>
<td>$0.09^{*}$</td>
<td>$0.05$</td>
</tr>
<tr>
<td>Mediator</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Value</td>
<td>$0.49^{**}$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$F$</td>
<td>$51.77^{**}$</td>
<td>$29.64^{**}$</td>
<td>$47.42^{**}$</td>
</tr>
<tr>
<td>Total $R^2$</td>
<td>$0.39$</td>
<td>$0.27$</td>
<td>$0.41$</td>
</tr>
<tr>
<td>Adjusted $R^2$</td>
<td>$0.38$</td>
<td>$0.26$</td>
<td>$0.40$</td>
</tr>
<tr>
<td>$\Delta R^2$</td>
<td>$0.14$</td>
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</tr>
</tbody>
</table>

Notes: $n=413$. $\beta =$ Standardized beta coefficient. Beta coefficient values are reported for the final step in each model. Gender: men=0, women=1. Age: $\leq 20=1$, $21-30=2$, $31-40=3$, $41-50=4$, $50-60=5$, $\geq 60=6$.

* $p < 0.05$. ** $p < 0.01$. 

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Additional analyses

After detecting the interaction of healthy food quality and green customer, we performed further analyses to enhance our understanding on how differently each individual healthy food quality attribute influences diners’ perceived value and repeat patronage intention among various green groups. For easier interpretation, respondents were divided into two green customer groups: high and low. K-mean cluster analysis was conducted to identify the high (n=293) and low (n=120) green groups. Value and revisit intention were then each regressed on six restaurant healthy food quality elements for both groups. The results of additional regression analyses are presented in Table 3. More numbers of restaurant healthy food quality factors appeared significant for the high green group than for the low green group. Specifically, for the low green group, two healthy food quality elements (nutritionally balanced diet and information about nutrition) were primarily influential across perceived value and revisit intention (p<.05). For the high green group, four attributes (nutritionally balanced diet, information about nutrition, fresh and natural ingredients, and weight control) were effective on perceived value and repeat patronage intention.

Table 3
Effects of healthy food quality on value and revisit intention by two green groups

<table>
<thead>
<tr>
<th>Restaurant healthy food quality</th>
<th>Value</th>
<th></th>
<th>Revisit intention</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low green β</td>
<td>High green β</td>
<td>Low green β</td>
<td>High green β</td>
</tr>
<tr>
<td>Provides a nutritionally balanced diet</td>
<td>0.27**</td>
<td>0.32**</td>
<td>0.30**</td>
<td>0.31**</td>
</tr>
<tr>
<td>Provides light and healthy food options</td>
<td>-0.06</td>
<td>0.08</td>
<td>-0.12</td>
<td>0.02</td>
</tr>
<tr>
<td>Uses fresh and natural or organic ingredients</td>
<td>0.00</td>
<td>0.24**</td>
<td>-0.02</td>
<td>0.17**</td>
</tr>
<tr>
<td>Uses a healthy cooking method (e.g., minimum deep frying)</td>
<td>0.18</td>
<td>0.04</td>
<td>0.05</td>
<td>0.05</td>
</tr>
<tr>
<td>Helps lose or control my weight</td>
<td>0.09</td>
<td>0.12*</td>
<td>0.01</td>
<td>0.10*</td>
</tr>
<tr>
<td>Provides information about nutrition.</td>
<td>0.22*</td>
<td>0.13**</td>
<td>0.30**</td>
<td>0.13*</td>
</tr>
<tr>
<td></td>
<td><strong>F</strong></td>
<td>9.02**</td>
<td>36.95**</td>
<td>4.93**</td>
</tr>
<tr>
<td>Total $R^2$</td>
<td>0.32</td>
<td>0.44</td>
<td>0.21</td>
<td>0.32</td>
</tr>
<tr>
<td>Adjusted $R^2$</td>
<td>0.29</td>
<td>0.42</td>
<td>0.17</td>
<td>0.30</td>
</tr>
</tbody>
</table>

Notes: $\beta$ = Standardized beta coefficient. For the low green group, n=120; and for the high green group, n=293. *p < 0.05. **p < 0.01.

DISCUSSION AND MANAGERIAL IMPLICATIONS

Given a higher frequency of eating out and increased interests in healthy eating in South Korea, it is crucial for restaurant operators to develop a thorough understanding about the impact of healthy food quality on their restaurant business. Researchers have shown the direct, positive effect of food healthiness on customer post-purchase variables without examining further behind the direct relationships (e.g., Namkung and Jang, 2007). This study contributes to the existing literature by identifying a psychological mechanism of perceived value that explains the direct relationship between restaurant healthy food quality and repatronage intention. In other words, restaurant healthy food quality enhances perceived value in the diner’s mind and the increase in value perception leads to a higher level of repeat patronage intention.

A few restaurateurs criticize unpopularity of healthy options, arguing that taste outweighs health concerns (Licata, 2009). However, it is feasible that although customers do not choose to order healthier dishes as often as they desire because of the lack of sensory appeal, they may be pleased to see the availability of healthful options in the restaurant. Healthy options may simply create psychological comfort because diners may feel that when they...
want to go for a healthy choice, their need can be accommodated. Providing an opportunity to act healthfully can add value in their mind. In conclusion, the results of this study reflect the increased awareness and interest about food healthfulness by restaurant patrons, specifically South Korean diners, and suggest that it may be a wise strategy for restaurateurs to incorporate more healthy food quality attributes in their menu.

If restaurant managers encounter the small sales of healthy options as pointed out by some U.S. operators (Licata, 2009), the promotion highlighting good taste of fresh and natural ingredients may be helpful. This study features a variety of healthy food quality factors and one of the characteristics is fresh and natural or organic ingredients. Despite on-going debates among scholars about superiority of organic foods over conventional foods (Fillion and Arazi, 2002), a large percentage of consumers believe that natural, organic products are nutritionally richer and tastier (Lea and Worsley, 2005; Hughner et al., 2007; Tregear et al., 1994). Communicating a good flavor of healthy food as well as excellent nutrition is likely to ease the risk of taking unfamiliar or misconceived healthy dishes.

Another key contribution of this study is to find that environmentalism moderates the relationships between restaurant healthy food quality and revisit intent. A stronger positive association is detected between the study variables for high green customers than non- or low green customers. The significant, strong moderated relationship presented in this study makes a good contrast with the insignificant, weak moderated relationship in the lodging industry. Han et al. (2010) found no significant differences in decisions on green hotel stays between high green individuals and low green individuals. The stronger moderated relationship in the dining environment may be explained by “selfish altruism”. This concept has been well recognized by hospitality and tourism scholars: green consumers are more willing to purchase products that are of benefit to them as well as the rest of the world (Miller, 2003; Lee et al., 2010). Because food products are directly related to customers’ own benefits, green customers’ intention to eat healthier food at the restaurant may be naturally greater than to spend a night at the green hotel. As environmental degradation becomes visible threatening everyone’s welfare, the number of pro-environmentalists is expected to increase gradually (Inglehart and Baker, 2000; Dunlap et al., 2000). This prediction sends an important message to restaurant industry practitioners that healthy eating may not be a short-term fad but a mainstream trend in the future.

This study found similarities and differences between high and low green customers in their salient healthy food quality attributes. First, high green customers pay considerable attention to weight control. Therefore, it is recommended to develop recipes for weight watchers and showcase those dishes on the menu to appeal to the green customer segment. Next, the high green group is keenly interested in fresh and natural or organic ingredients. It may be reasonable for restaurant operators to procure food ingredients from nearby, local suppliers whenever possible to ensure freshness; and select reliable vendors for organic and natural ingredients to build customer trust. The latter is particularly important in South Korea because the government does not issue the organic certification and the product can be marked as organic by manufacturers themselves. One article reveals that the majority of organic farm products sold in South Korea are not truly organic (Schwartzman, 2007).

It is interesting to observe that nutritionally balanced diet and nutritional information are critical for both high and low green groups. In fact, these two items are the only significant attributes for the low green group. Also, note that among all healthy food quality factors, nutritionally balanced diet is the most prominent variable for both groups with the largest beta coefficient in both regression models (value and revisit intention); and nutritional information is as important as nutritionally balanced diet particularly for the low green group. These findings indicate that regardless of the different degree of environmentalism, every individual has a basic level of interest about his or her own health and wishes to take nutritional meals.

Recently, in the U.S. the first menu labeling law has passed on a national level requiring chain restaurants with twenty or more units to disclose nutritional and calorie information (U.S. Food and Drug Administration, 2010). South Korea does not have such strict regulations and it is loosely implemented providing nutritional
information to restaurant patrons. However, according to the result of this study, diners in South Korea are likely to be appreciative of learning comprehensive nutritional information. In the future, it may be wise for large restaurant companies in South Korea to consider developing systematic ways to communicate nutritional information with their customers more actively. For independent operators with only one outlet or a few locations, if their financial resources are limited, it is recommended at least to train employees thoroughly to be familiar with food ingredients, cooking methods, and nutrients associated with every food item on the menu. This way, employees are able to handle nutritional or food-related questions from customers appropriately.

Last, it is worth discussing the effects of the two control variables: age and gender. Unlike our prediction, there are no age effects in the regression models. The lack of age effects may occur due to the fact that a large percentage (65%) of respondents are in older aged brackets (40s, 50s, and early 60s), who may be all equally health conscious, thereby washing out the age effect. On the other hand, the popularity among older diners of the participating restaurants with a good selection of healthy options seems to back up the previous findings on the age effect. It is also puzzling to see the reverse gender effect. The greater level of satisfaction and repeat patronage intention to the healthy food restaurants of this study by male respondents may be attributable to hidden intervening variables such as education. In South Korea, men have a higher education than women notably in older generations. A few articles present a positive association between the educational level and the healthy food intake probability (e.g., Kearney et al., 1988). Thus, the missing variable of education may cause the reverse gender effect in this study.

SELECTED REFERENCES


